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DIESEL RAILWAY TRACTION SUPPLEMENT

The September issue of THE RAILWAY GAZETTE *Supplement, illustrating and describing developments in Diesel Railway Traction, is now ready, price* 1s.

NOTICE TO SUBSCRIBERS

Consequent on the paper rationing, new subscribers cannot be accepted until further notice. Any applications will be put on a waiting list and will be dealt with in rotation in replacement of subscribers who do not renew their subscriptions

GOODS FOR EXPORT

The fact that goods made of raw materials in short supply owing to war conditions are advertised in this paper should not be taken as indicating that they are available for export

POSTING "THE RAILWAY GAZETTE" OVERSEAS

We would remind our readers that there are many overseas countries to which it is not permissible for private individuals to send printed journals and newspapers. THE RAILWAY GAZETTE *possesses the necessary permit and facilities for such dispatch.*

We would emphasise that copies addressed to places in Great Britain should not be re-directed to places overseas

TO CALLERS AND TELEPHONERS

Until further notice our office hours are:
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The office is closed on Saturdays

ANSWERS TO ENQUIRIES

By reason of staff shortage due to enlistment, we regret that it is no longer possible for us to answer enquiries involving research, or to supply dates when articles appeared in back numbers, either by telephone or by letter

ERRORS, PAPER, AND PRINTING

Owing to shortage of staff and altered printing arrangements due to the war, and less time available for proof reading, we ask our readers' indulgence for typographical and other errors they may observe from time to time, also for poorer paper and printing compared with pre-war standards

Railway Expenditure on New Works

IN our issue of August 20, public transport as a factor in the problem of maintaining full employment was discussed, and particular consideration was given to two main ways in which assistance from this source might be secured. These were new works (or investment in capital goods) and the manipulation of transport charges. In a recent issue of *The Times* it was shown that the expenditure of the railways on new works is by no means a negligible fraction of the total volume of capital investment. Between 1928 and 1938 inclusive, gross railway expenditure on capital account totalled £75·1 millions, and expenditure on renewals was £184·5 millions, giving a total of £259·6 millions. Broadly, the total annual expenditure reflected the rise and fall of trade activity. From a figure of £28·2 millions in 1930, the combined expenditure fell to £15·9 millions in 1933, but recovered to £27·9 millions for 1937. During those years the fluctuations in the tonnage of railway freight were very much sharper than those in national production, and the diversion of merchandise must have an important influence on the amount of railway expenditure on new works. But for this the railways would probably have been much more disposed, and they would certainly have been better placed, to even out their expenditure

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Timing of Capital Investment

The outlay on railway works in the circumstances between the wars would have been conditioned by the same considerations as weighed with the companies if the railways had been State-owned or State-managed. There is no reason to suppose that the State would have undertaken more substantial investment. Nevertheless, it was possible to time expenditure amounting to £100,000,000 to promote Government policy on employment. In 1924, for instance, the railways agreed to spend £40,000,000 to help employment. In 1929, the 5 per cent. on railway passenger duty was remitted subject to the expenditure by the companies on development and improvement of a sum equal to the capitalised value of the duty paid in 1929—about £7,000,000. In 1929, under the Development (Loan Guarantees & Grants) Act, expenditures to promote employment were undertaken, and between 1930 and 1938 the amounts thus included in the capital accounts totalled £13,000,000. In 1935, under the London Passenger Transport Board Agreement Act, and the Railways Agreement Act, some £68,000,000 was loaned the companies and the London Passenger Transport Board for works, the bulk of which had not been completed when war broke out. The balance of these sums, with the large amounts which are now standing in the trust funds under the present agreement with the Government for deferred renewals, and which in present circumstances will continue to increase, will provide a nucleus for improvement schemes after the war.

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Post-War Employment in Canada

Mr. S. W. Fairweather, Vice-President (Research & Development), Canadian National Railways, recently presented to the Special Committee on Reconstruction & Re-establishment of the Canadian House of Commons a memorandum containing a suggested programme of works which might be undertaken by the company after the war, if circumstances should be favourable, largely for the purpose of providing employment. Further details of this programme are given on page 240. Mr. Fairweather, speaking before the committee, said that employment could be considered most conveniently, in any general plan, in the light of the national income, of which if formed the basis. The memorandum contains the following calculations:—Assuming a national income of $8,000,000,000, normal direct employment by the C.N.R. is estimated at 47,000,000 man-days for operating and normal capital expenditure. For an addition of $1,000,000,000 to the national income the direct employment would be increased by 4,100,000 man-days. For a decrease of $1,000,000,000 in the national income, the decreased direct employment for the railway might be expected to be 4,400,000 man-days. Extraordinary capital expenditure designed to relieve unemployment on the scale of $100,000,000 a year would furnish a direct employment of 15,000,000 man-days.

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No More Railways for Ireland?

Lord Glenavy, Chairman of the Great Northern Railway Company (Ireland), has put some pertinent questions to the author of a recent article in the *Irish Times* on "Steel Track Minds," who suggests the complete supersession of railways in Ireland by road motor vehicles. If this were to come about, Lord Glenavy asks what mileage of new roads would require to be constructed and existing roads to be reconstructed, and what would be the cost of such work; also what would it cost to

provide sufficient buses and lorries to replace the stock of railway locomotives, carriages, and wagons. A third question was what increase in the national income to meet that cost would result from carrying all passengers and goods solely by road instead of by road and rail. There is also the useful reminder of the possibility that supplies of oil and rubber might again be restricted. The public is asked, how much of present convenience would remain with the congestion, delays, injuries, and deaths which would be caused by diverting from closed and protected steel tracks to the common highway millions of passengers and millions of tons of goods. Abandoning the railways means throwing away not merely capital, but transport vehicles, machinery, and tracks worth admittedly millions of pounds at the present time.

Overseas Railway Traffics

Debenture stocks of the leading British-owned railways in Argentina have shown a tendency to be held firmly as a result of hopes of better treatment by the authorities and of closer working arrangements by interchange of directors. Traffics, except on the Buenos Ayres Great Southern and the Entre Rios, have in the past few weeks been mainly lower, although the Central Argentine has been overtaking some of its previous decreases. At this time a year ago the Central Argentine had an aggregate traffic increase of £118,164, and the Central Uruguay an aggregate decrease of £13,674. In the first eight weeks of the current financial year the Central Uruguay receipts are £66,808 up. Great Western of Brazil receipts to date in 1943 show an advance of £180,700, and the corresponding increase on the Leopoldina is £125,401.

	No. of week	Weekly traffics	Inc. or decrease	Aggregate traffic	Inc. or decrease
		£	£	£	£
Buenos Ayres & Pacific**	8th ...	76,920	— 6,000	586,920	— 49,320
Buenos Ayres Great Southern*	8th ...	143,760	+ 15,660	1,010,220	+ 64,560
Buenos Ayres Western*	8th ...	44,820	— 1,800	339,240	— 21,660
Central Argentine* ...	8th ...	130,530	+ 6,870	899,970	— 24,732
Canadian Pacific ...	... 33rd	... 1,158,400	+219,200	36,049,830	+4,573,600

* Pesos converted at 16⅔ to £

On the United of Havana there has been an almost unbroken series of increases in receipts since July 1, 1941.

Argentine Rail Agreement with Chile

It is reported from Buenos Aires that on August 25 an important transport convention was signed between the Foreign Ministers of Argentina and Chile. The agreement, which is the subject of an article on page 241, provides for the construction of roads and railways over the Andes and free transit for merchandise and vehicles between the two countries. Goods destined for any third country are freed from import and export transit dues of the two countries party to the convention. Argentina also undertakes to expedite construction of the railway between Salta and Antofagasta *via* the Socompa Pass (details of which were given in our January 22 issue), and which has been under consideration since as long ago as 1898, and also to reconstruct the Argentine end of the Transandine Railway. The survey of the proposed line across the Andes, between Zapala on the Buenos Ayres Great Southern Railway westwards to Longquimay, is to be commenced next year. The construction within three years of a road over the Andes between Mendoza and Las Cuevas, and Caracoles and Los Andes, is also agreed, together with the preliminary survey for the construction of a tunnel through the Andes, linking these roads.

Transport Facilities in the Colonial Empire

Substantial transport developments in the various units of the Britsh Colonial Empire are envisaged in an article by Mr. Percy G. Donald, which is one of a series on colonial development appearing in the columns of our associate *The Crown Colonist*. The author says, if we accept that development of natural resources is dependent upon the provision of adequate internal and external transport, it follows that until we have arranged regular and reasonably-frequent communications within the Empire, we shall not have fulfilled adequately our Colonial trust. He says that in the larger colonies lack of internal communications qualifies the development of vast fertile areas, for which this country has accepted responsibility, and says it is unreasonable to expect that inhabitants, or new settlers, in a Colony can be induced to enter into long-term production without some surety of an established market, for which regular and suitable transport is a preliminary essential. As exemplifying the value of Colonial railways, Mr. Donald says that the British Somaliland, in 1899, carried by overland transport, to Abyssinia, £750,000 worth of traffic. The French Government then gave an annual subvention of £20,000 for 50 years for the construction of a railway in French Somaliland. Within 20 years the British traffic had come down to £33,000, while in 1905, just after completion, the French railway carried £1,200,000 worth. In 1937 the exports of French Somaliland were equivalent to £126 a square mile; those of British Somaliland a mere £4 a square mile.

Transport and Relative Development

The relative state of development of British Guiana and the Gold Coast furnishes an illuminating commentary, to which Mr. Donald directs attention. These territories are of comparable area; their climate is in each case hot and humid; and both production and potentialities are similar. The Gold Coast has 500 miles of railways, 2,120 miles of first-class motor roads, and an extensive network of second-class roads. It enjoys, additionally, good steamship communications with the outside world. British Guiana has barely 80 miles of railway, and its motor roads are poor; the Colonial Office and other official reports, in fact, refer only to " unspecified " degrees of roads, and it would seem that even these cover fewer than 700 miles. Steamship communications are notoriously poor. What is the result? The population of British Guiana does not yet total half-a-million; its exports, in 1937, hardly exceeded £32 a square mile. But the Gold Coast is able to support a population of close on 4,000,000 persons and to carry on an export trade to the equivalent of £176 a square mile.

Strategic Railway Construction in East Africa

Experience of the present century has been that war has provided one of the main incentives to railway construction in the less developed parts of the world. Twenty-five years ago the construction of strategic lines provided the basis of what have since become some important commercial railway systems, and it is likely that there will be similar results in the present conflict. Already information has been published of some important railway construction in the Middle East, and details have now been made public of work undertaken in Kenya at the request of the military authorities, of which details are given at page 239. In this case the railway extension was to have carried the Kenya & Uganda Railways towards the northern frontier as a contribution to the Allied offensive against Italian Somaliland. In 3½ months, 215 miles of survey and 147 miles of staking were done, 81 miles of earthwork were completed, and platelaying was undertaken for 11½ miles. The work was suspended on account of the speedy success of the military offensive launched against the Italians, but it is to be hoped that in more peaceful times the railway may be completed for the benefit of the industrial development of the territory.

Combined Caterpillar and Locomotive Engineers' Crane

It is significant that in these days of intensive traffic, American railways have found the most useful type of engineers' crane to be that equipped with both flanged wheels and caterpillar tracks. For loading and unloading rails and other materials, the great advantage of a line-side caterpillar crane have been obvious for some time past, and considerable numbers of this type are in use. Their special merit is that they do not obstruct the track, they reduce material train mileage and enable staff and stock to be released for other duties. More recently, however, a crane suitable for relaying work under all conditions, and one which would at the same time reduce line blocks to a minimum, has been in urgent demand, with the result that a combined unit, having both caterpillars and flanged wheels, has been evolved. The caterpillar tracks of this useful machine are spaced to move on or over the sleeper ends, and between them the flanged wheels can be lowered to or raised from the permanent way by hydraulic power. This type of crane, though it can work as an ordinary locomotive crane, can move clear of the rails at short notice, by its caterpillar tracks. At a level crossing or with the aid of a rail-level sleeper platform these cranes can be clear of the line within 2 to 3 min. They are capable of speeds u to 12 m.p.h. on the rails.

American Steel Shortage

Much concern has been caused among the managements of United States railways by the announcement that the War Production Board has cut the request of the Office of Defense Transportation for 2,233,015 tons of steel in the third quarter of the year, for railway use, by 40 per cent., to 1,350,000 tons, " regardless of what happens to railway equipment in the next nine months." The reason given is that there is not enough steel to go round. It is the steel rail position which is the most disquieting. Mr. Ralph Budd, President of the Chicago, Burlington & Quincy Railroad, stressed this point when speaking in May at a conference of the Chamber of Commerce of the United

States in New York, and again when addressing the stockholders of his own railway at Chicago. To the latter he remarked, "You can make cars last a little longer and you can make locomotives run a little longer, but when a rail fails there is nothing to do but put in a new rail. The extremely severe use of the railway plant has caused rails to become perhaps the most critical of all our material problems." Nevertheless, the W.P.B. has cold comfort to give in the matter. To the American Institute of Mining and Metallurgical Engineers, the W.P.B. Steel Division Director, Mr. H. G. Batcheller, said on April 29, "This autumn, as we cannot expect the railroads to continue passing miracles indefinitely in meeting the everrising traffic demands, the railroads are going to be in much greater trouble. Their equipment is wearing out. They are being pushed far beyond the limits of performance which can be reasonably expected. They will have to get along."

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Large *versus* Small Cylinders

Design rules which are accepted without a critical examination of underlying reasons can be a serious check on progress: one such rule was that ordaining the balance of two-thirds of the reciprocating masses in all locomotives. Only since this rule went out of favour have the high-speed possibilities of steam traction been fully realised. Sometimes the bald statement is made that small cylinders are better than large ones; this is another of those generalisations that might easily limit locomotive development were it not fully appreciated that this superiority is attributable only to the difficulty, so far not overcome, of providing an adequate ratio of port size to piston area in the larger cylinder. Actually, the evils of heat transfer between steam and metal are so much less in a large cylinder than in a small one, due to the diminished ratio of interior surface to interior volume, that this dictum about small cylinders being better than large ones might come in time to be reversed. Nobody could seriously believe that the cylinders of a small-scale model engine use steam as efficiently as those of the prototype and nobody should suppose that the problem of providing adequate port areas is insurmountable. With valves of the newer types, operating in the end covers, it may be possible to provide very large ports and greatly reduced clearance volume.

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The Value of Articulation

The practice of articulation is held in the United States to be of considerable value; and, as has been noted recently in *The Railway Gazette*, a large proportion of present-day steam locomotive orders in that country is for articulated types. The power brought under the control of one engine crew is great; and, even with allowance for the fact that enginemen's pay rises progressively with adhesion weight, considerable operating economies are possible, in view of the loads which can be hauled, and the speeds which can be maintained, by engines of high tractive power. It is not only with the larger companies that articulation is finding favour. As described on page 228, the Duluth, Missabe & Iron Range Railway recently acquired 18 locomotives of the 2-8-8-4 type, which are among the most powerful in the United States, for handling its heavy ore traffic. The Clinchfield Railroad has more than halved the number of its steam locomotives in regular through service by turning over to articulated power. Of major users, the Union Pacific is a notable example, with 60 engines of the 4-6-6-4 type in service and 25 more on order, supplemented by the 20 535-ton 4-8-8-4 locomotives of the so-called "Big Boy" class, which are the largest and heaviest in the United States.

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Jubilee!

In accordance with the admirable military precept that attack is the best form of defence, we are forestalling criticism of our use of the word jubilee in relation to a 40th anniversary, by reminding readers that the commemoration or rejoicing which the word jubilee connotes is not necessarily associated with any particular period of years. In origin, we probably owe the word to the Hebrew *yobel*; the ram's horn trumpet blown for rejoicings. We, in this country, have accepted 50 years as the period of a jubilee without an adjective, mainly by reason of the association with the completion by Queen Victoria of half a century of reigning. When General Sherman marched "from Atlanta to the sea" he brought "the jubilee"—but not a specific period of years. By common acceptance the period of years is indicated adjectively with jubilees, thus: 10, tin; 15, crystal; 20, china; 25, silver; 30, pearl; 40, ruby; 50, golden; and 60, diamond. The last named has enjoyed the widest popularity, again because of Queen Victoria.

The Machine Tool Industry

THE vital importance of the machine tool industry is one of the clearest lessons taught by the war and this is well brought out in an excellent article in *The Economist*. The following is a summary of the main points made in this article,* with some additions. To the planner of war production the guiding factors are manpower, materials, and machine tools, and the greatest of these is often machine tools. They are a direct and primary contributor to production in wartime only because machinery and metal goods generally are what the community most wants to consume. In peacetime the chief need for machines is to serve as producers' goods, that is, to assist in making other goods for consumption. Machine tools are producers' goods in the second degree; they are needed to assist in making machines to assist in producing goods for consumption. This means that the makers of machine tools inevitably suffer from the extremes of prosperity and depression.

The term machine tools, broadly, can be taken to cover any power-driven apparatus for working on metal. The lathe, with its many descendants, is the essential machine tool, but machines for planing, drilling, and stamping metal also fall within the definition. Machine tools were invented and first made in Britain. In later years, Britain has fallen behind America and Germany both in the size of industry and in the types of machine tools made. In the pre-war years there was a considerable import on balance, for many reasons. In the first place British industry was less fully mechanised than American, and probably than German. Many operations which in America are performed by machinery were in this country performed by hand, or by very simple hand machinery. Secondly, such machinery as existed was replaced at much longer intervals in British industry than in American. This was partly due to the meagre allowances for depreciation made by the Inland Revenue, but also to the native reluctance of British industrials to replace a piece of machinery so long as it had any life in it. These two influences combined to reduce the domestic market for machine tools. Thirdly, with a small total demand divided among many types, the more specialised of them are needed in such small numbers as not to repay manufacture if they can be imported. Fourthly, although the two other makers of machine tools have protected their markets from the beginning, the British industry enjoyed only moderate protection for but seven years before the outbreak of war.

During the war the British machine tool industry has been considerably expanded and developed. The arguments for maintaining it in its expanded condition are equally strong in a context of war or peace. This war has demonstrated the enormous chasm of strength that separates a great power from a small nation. It is no longer true, as it was even up to the last war, that two or three small powers equal in strength one great power. Either a country is a great power or it is militarily defenceless, and no country can be a great power unless (among other things) it is an arsenal. A native machine tool industry is an essential requirement for an arsenal. Consequently, if Great Britain is to remain a great power, she must look to her machine tool industry as she does to her ships. In peacetime, a flourishing machine tool industry would be a powerful reinforcement to the export trade. When an agricultural country embarks on industrialisation the manufacture of machinery will be the last industry but one which it will set up, and machine tools the last of all.

Of the largely increased number of machine tools now being worked in Great Britain, many of which are imported, some can be used only for munitions, but the majority almost certainly can be used for peacetime purposes. The Government, after the war, will be the owner of large numbers of tools, both because of its direct trading in them during the war and because of the large numbers of factories whose construction and equipment it has financed. The automatic result of the end of the war would be that enormous quantities of machine tools would come on to the market. There would be a slump which, so far from supporting the industry would kill it.

The great diversity of types of machine tools and the great variety of uses to which they can be put, in peacetime, by a very large number of different firms would make it almost impossible for the Government to draw up either a programme of production or a fair basis of hiring-out. The basic difficulty arises from the fact that the supply of machine tools (new and secondhand together) will greatly exceed the demand, and measures should be taken to work on both sides of the equation. On the supply side, the Government should pursue a very cautious policy in disposing of its stocks. Any tools that are more adapted to war work than to peacetime uses should be held in a national munitions reserve. Others that have com-

* *The Economist*, August 21, 1943

paratively little life left should be scrapped. The prices of secondhand together) will greatly exceed the demand, and —which involves the control of second-hand sales and, conceivably, a subsidy in aid of the prices of new tools.

Demand could be stimulated by giving every encouragement to replacement. Railway companies are likely to offer the best market for specialised machine tool makers. There have been very few additions to railway workshops since the war; more particularly this applies to overseas railways. Nothing should be left undone by British manufacturers to watch and foster carefully this overseas railway market. Cost of replacement could be allowed in all cases to be deducted from income for tax purposes, and credit could be provided on easy terms. There should be a policy of first aid on the lines suggested, until such time as the general policy can attain momentum and thereafter a special watch over the fortunes of this vital but vulnerable industry. For these purposes, it will be desirable to keep the Machine Tool Control, or some similar agency, in existence.

Post-War Transport: A Plan to Secure Economy and Efficiency

IN this series of special articles* we have outlined what appear to us to be the main principles that should govern the transport arrangements after the war. Everything turns on the principles; there can be many varieties of schemes, but if the basic principles are not right, no scheme in the long run can attain the objective we have set—an efficient and economical system. Application of these principles is based on technical knowledge, which alone can determine them. No one should be misled by the apparently easy solution proposed by trade union and Labour Party spokesmen, or even, for that matter, by Mr. Herbert Morrison himself. Mr. Morrison is greatly admired in the transport industry, where there is high praise for some of his work as Minister of Transport between 1929 and 1931, but his views on the future of transport are inevitably coloured by his political creed.

The easiest of all apparent solutions of this complex problem of transport would be to merge all the different types in one undertaking. At one stroke all the headaches that have been caused by that blessed word "co-ordination" would be removed from public (but by no means from private!) discussion for ever; it would not matter if the public does pay in part for the road-way that one form of transport uses, whilst another has to pay for its track in hard cash and another gets its from nature; nothing more would be heard of the statutory control of railway charges requiring freight rates to be fixed on a sliding scale principle, whilst road freight rates are uncontrolled and hauliers thus able to "cream" the rail traffic; such things as the obligation to carry all traffic, publicity of rates, and undue preference, would cease to be bones of contention.

There would be no difficulty, on paper at any rate, in drawing up a type of organisation to suit the new combined undertaking. But would all this, in the present state of public transport, provide an efficient and economical system for this country? Would it allow the scope and stimulation for improvement that are absolutely essential, particularly in the early post-war years? From the taxpayers' point of view, would it be a good thing for the State to purchase the whole public transport system or guarantee the return on its capital, taking the risk—good or bad? It would be a gigantic financial venture as £2-3,000,000,000 of capital would be involved and well over a million employees.

Experience of State-owned railways abroad shows that very few of the undertakings pay; mainly they require substantial subsidies from the State Treasuries. Consider the results of a few:—

		Surplus or Deficit, 1938*
German State Railway	—	119,835,000 Rm.
French National Railways	—	7,542,557,000 fr.
Belgian National Railways	—	283,489,000 fr.
Netherlands Railway	—	23,335,000 fr.
Italian State Railways	+	191,459,000 lire
Norwegian State Railways	—	10,234,000 crowns
Swedish State Railways	+	12,868,000 crowns
Canadian National	—	57,026,000 $
Indian Railways:		
Eastern Bengal	—	9,449,000 Rs.
East Indian	+	20,001,000 Rs.
North Western	—	12,834,000 Rs.
G.I.P.	—	636,000 Rs.

*or nearest date

We can see from even these simple facts the probable reason why Mr. Morrison favours the public utility solution rather than State ownership. As we have shown, this would leave the ownership in private hands, as now, *including the risk*, but would free the management from any real control and make it answerable to something called public opinion—a kind of bastard socialism.

It is important to note that to the Labour Party the unification of transport in so-called public ownership is a mere political objective, and no attempt has been made to show that it would result in greater transport efficiency for public requirements. That this is so anyone can see for himself who examines the history of the trade union advocacy of nationalisation. Towards the end of the last century they were urging that the railways should be nationalised and they did so on the grounds of alleged inefficiency in the management of the railways. Now they argue differently. They say now that nationalisation alone can effect the co-ordination of all forms of transport. The reason has changed; the objective is the same. There is some irony in the fact that one of their earlier criticisms of railway management was, as they said, the "unwieldy and unimaginative railway directorates" sat looking on after the last war "while new road competitors were buying up surplus military motor vehicles and laying the foundations of extensive motor services, and it was not until 1928 that they made a really serious effort to obtain the necessary road powers."* But the fact is that when the Government appointed a committee in 1921 to inquire whether the railways should be given road powers, the labour interests represented on it actually made a separate report recommending that such powers should *not* be granted to the railways. This document is on record (Cmd. 1228). Thus they, and not the "unimaginative railway directorates," must take responsibility for preventing the co-ordination of transport, to achieve which they say requires "nationalisation."

For reasons such as the foregoing, we suggest that all serious thinkers about post-war transport should dismiss the Labour Party's proposals as superficial and made for political reasons only. There are others, like Lord Reith, who appear to be toying with their ideas, but, as we said in our first article, a careful examination of Lord Reith's views as put forward in the House of Lords on June 17, 1942, and elsewhere, fails to reveal any sound public reasons for a change on these lines. As to the prospects of State-ownership of transport after the war (using the words in their literal sense) a few years will show whether any Government will propose it. But we repeat again: if for political reasons it were to be a choice between State-ownership and a public corporation managed by State nominees at the risk of the nominal owners, there is no doubt that the present owners would choose the former, and they would clearly be wise.

For our part we are concerned that nothing should be done that will prevent the maximum of improvement with the minimum of waste. We believe, for example, there is scope for further improvement of the steam locomotive, despite the great strides in recent years, for the extension of electrification and diesel traction and for the development of the road motor vehicle, the trolley bus, the canal barge and the aeroplane. Experiment and research are necessary in all these forms of motive power. Has the best type of steam locomotive been evolved to deal with the fastest passenger work (mainly limited by grades and alignment at curves and junctions); what are to be the characteristics of the locomotive of the future, the mixed traffic type; what are the possibilities of the turbine locomotive; who can fail to be impressed by the possibilities of the trolley bus, that smooth, silent and most efficient unit? This list is obviously not exhaustive; but what stimulant is required to ensure this progress? Surely there is only one—the enterprise of competition, which has far from spent its force. Not the unlimited or unregulated competition we had between the wars, but competition on an equitable basis that will permit improvement in each and secure inter-working between the different methods of transport and thus result in a minimum of avoidable waste.

In our view it is clearly possible to plan transport as a whole, making a loosely-knit system but with competition and enterprise in services preserved. No scheme that does not embrace all transport has any prospect of success. We have in mind a long-term plan that would start after the war by a scheme *built on* the pre-war arrangements and containing the features already outlined in these articles and operated by private enterprise, that would, we believe, ultimately lead to a healthy, co-ordinated system for the whole country. Immediate post-war legislation would be necessary, and it would include the retention of that wartime boon, the complete pooling of railway wagons. The staggering of hours and of holiday travel would be an important factor, to reduce the wasteful expenditure involved in peaks, and improved freight loading would be specially aimed at. Yet transport would participate actively in meeting the increased requirements of organised leisure and the stimulation of tourist traffic.

* "The Future of Transport," June 18, "The Problem of the Peaks," July 9, "Transport and its Track," July 23, "Transport and Full Employment," August 20, "Transport and Catering Policy," August 27

* Labour Party's Report on "The National Planning of Transport," 1932, p. 5

In the course of these articles we have suggested many ways in which transport could assist general employment; in this way, in addition to helping the country, it would be self-help. We should also like to see an immediate inquiry started in an endeavour to set out the principles of a common charging structure (or structures) for all forms of transport, just as, after the last war, new principles for railway charges were laid down. The users' interest would be fully protected and so would labour. It would be foolish to disguise the fact that the problems facing public transport after the war are enormous. We have mentioned labour: new standards will be required from labour; in some respects the essential virtues will remain—mechanical skill in the drivers, vigilance in the signalmen, orderliness in the clerical grades; but in all a new outlook will be needed, and this must first of all be applied high up in the direction. There will need to be a new *idea* of transport if it is to survive in the forms in which we now know it.

We conclude by explaining that we have deliberately refrained from sketching out a scheme for post-war; we are mainly concerned here with the angle of approach. From this point of view we offer the ideas we have put forward in these articles as a basis for discussion so that specific schemes can be tested against them.

Railways of Paraguay

PARAGUAY is among the smallest of the South American states, and is in the disadvantageous position of having no direct outlet to the sea. The country is about twice the size of Great Britain, but the population numbers less than a million. The natural resources are agricultural, forestal, and mineral; the chief products are cattle, quebracho extract, which is the tannin used in the leather industries, yerba maté, known in England as Paraguayan tea, timber, sugar, tobacco, cotton, grape fruit, and oranges. Paraguay also supplies 70 per cent. of the world demand for petit grain, an essential oil distilled from the leaves of bitter oranges and used as the basis of perfumes and flavourings. There are large areas of good grazing lands, which support over 3,000,000 head of cattle. The north is mountainous, but the south is one of the most fertile regions of South America. Much valuable timber is available in the forests, including hard, soft, and dye woods. The rainfall is adequate for agriculture and although practically the whole of the country is cultivable very little as yet has been brought into production. The mineral wealth is vast, but untouched. Iron exists practically everywhere; pyrites and peroxide of manganese abound; and copper is found in many parts. Of the considerable limestone, marble, granite, kaolin, and lithographic stone known to exist, only limestone has been worked to any extent.

Like so many other South American states, Paraguay lacks population and transport. There is only one main-line railway, which is standard gauge, with a total length of 274 miles, but there is a number of minor lines, including the Ferrocarril del Norte which owns and operates 35 miles of metre-gauge track from Concepción, on the river Paraguay, 130 miles north of Asunción, towards the Brazilian frontier. Paraguay is a partner in the cause of the United Nations, and not the least important result of her foreign policy is the resumption of cordial relations with her large neighbour, Brazil. For 71 years Paraguay owed Brazil a debt, representing the indemnity payable as the aftermath of a war which ended as long ago as 1872. Paraguay had undertaken the courageous, but impossible, task of waging war single-handed against a triple alliance composed of Brazil, Argentina, and Uruguay. The decision to annul the debt, announced recently by the President of Brazil, coincides with the arrival of the Paraguayan President in Rio de Janeiro to return the visit paid to Paraguay some two years ago by the President of Brazil, Dr. Getulio Vargas. These political developments are important for Paraguay, a land-locked country which has been hitherto, by force of geographical circumstances, little more than a junior partner of Argentina in the cattle and quebracho business.

The present war has made Brazil and Paraguay allies, which portends far-reaching commercial as well as political events, but before complete rapprochement can come about a certain amount of railway construction is essential. The two countries are divided partly by the Paraguay river, along the upper reaches of which the President travelled by steamer as far as the Brazilian town of Porto Esperança, whence there is through rail communication to Rio de Janeiro, San Paulo—the most important and fastest growing industrial city in South America—and Santos, the coffee port on the Atlantic. Between Asunción and Porto Esperança there is no regular means of communication other than by shallow-draught steamer on the River Paraguay. To complete through rail connection between the two countries, it will be necessary to construct about 450 miles of line—300 miles in Paraguayan territory and 150 miles from Ponta Pora, on the Brazilian frontier, to Campo Grande, on the main line to San Paulo and Santos. One of the first decisions to be taken will relate to gauge. Nearly all the Brazilian railways are metre gauge and for the most economical and convenient interchange it would be preferable that the Paraguayan lines destined to develop trade and interchange with Brazil, should be of the same width. The Paraguay Central is standard gauge, and with the Argentine North Eastern and Entre Rios lines establishes the through international rail route between Buenos Aires and Asunción, a distance of 945 miles, without break of gauge. The whole service, with the exception of the short stretch of 55 miles from Zárate (now known as Teniente General J. F. Uriburu) to the city of Buenos Aires, is British-owned.

After many years of slow progress, Paraguay now seems to be approaching better times. Hitherto, British railway enterprise has played the leading part in opening up the country. Apart from Argentina, Great Britain is Paraguay's best customer and not long ago agreed to the transfer of sterling balances in London in favour of Paraguay to the Central Bank of Argentina, to be used in connection with the repatriation of Argentina's foreign debt. In more propitious times such credits might have been the means of paying for much-needed British exports of railway equipment to Paraguay to expedite the construction of the desired connecting links with Brazil—a step which would have produced no less satisfaction in Great Britain than among the peoples of her allies, Brazil and Paraguay. A map and short article relating to the railways of Paraguay is on page 229 and in this some details are given not only of the Paraguay Central and the Northern Railways but also of the most important of the industrial railways.

The "Midland" Manchester

JUST forty years ago the Midland Railway Company "put Manchester on the map" in the matter of hotels. On Friday, September 4, 1903, on the fifty-fourth birthday of Sir William Towle, the "Midland" Manchester was opened. There is no monument to Sir William in St. Peter's Square, though he is more deserving of one than several notabilities associated with the civic life of Manchester, whose memory is so commemorated. However, he really does not need one as the "Midland" Manchester, followed a few years later by the Liverpool "Adelphi," are better memorials of his genius and the enterprise of the board and management of the old Midland Railway. On page 232 we reprint a few particulars from an account of the "Midland" Manchester, published at the time of the opening ceremonies. It might well be an account of a hotel opened just before the present war. Its deserved success was immediate. Ever since the "Midland" has been the business and social centre not only of Manchester, but for the surrounding district. Needless to say, it brought much traffic to the Midland route.

The "Midland" Manchester is forty years young; and the Midland Railway has been twenty years dead. Twenty years of grouping have produced nothing better than the former Midland Railway—not a few will say "nothing so good." In thinking of the Midland six names should be remembered. They are: Allport, Samuel Johnson, the Beales, Cecil Paget, Guy Granet, and, last but not least, the Towles. "Travel by Midland for Comfort" was no meaningless slogan. It was always a neat line with its trains and stations clean and smart. It was popular both with traders and travellers. In its last ten years it was also a very well operated line and was fortunate in having a fairly even flow of traffic year in and year out and therefore not much troubled by "the problem of the peaks." It is a pity the Midland with the Great Central, Glasgow & South Western, Hull & Barnsley, and Midland & South Western Junction was not made a fifth group in 1923. It would have set the pace.

When "grouping" came, the Midland was paid one great compliment by the L.M.S.R. apart from the adoption of "Midland Lake" for its carriages and express passenger engines. Midland policy and methods of management of hotels and restaurant car services were entirely adopted by the L.M.S.R. Hotels of constituent companies were modernised and new resort and business hotels built; the latest business hotel to be opened being the new Queen's Hotel at Leeds. In our view the hotel policy to be followed by British railways after the war is one meriting immediate attention. Last week we published an article on "Transport and Catering Policy," and next week we intend to return to the subject in an article entitled "Railway Hotels and the Transport Industry."

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

Names for Railway Posts

London, August 23

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—In your issue for August 20—an excellent number, by the way—six lines of print are needed to record the transfer of Mr. J. P. Euington from one staff post to another in the L.M.S.R. service. Does this not show that designations for railway posts are becoming too complicated? A good deal of time and paper would be saved by keeping to simple names. The railway companies seem to be forgetting Mr. Winston Churchill's advice to the Civil Service to cut out superfluous words in correspondence.

Yours faithfully,
"NOMEN"

Derivation of "Tramway"

The Railway Signal Co. Ltd.,
Fazakerley, Liverpool, 9. August 24

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—The opening paragraph of your account of Mr. C. E. Fairburn's lecture on Electric Railway Traction appearing on page 183 of your issue dated August 20, gives the probable derivation of the word "tramway" as obtaining from the fact that the early tracks were made of baulks of timber known as "trams."

According to historical details of the former Midland Railway, a Mr. Benjamin Outram of Butterley designed a "plate-way" which became known as the "Outram-way" system and by omitting the first two letters of the word Outram and combining the words the name of this system was subsequently abbreviated to "Tramway." Is it not possible, therefore, that word "trams" as the name for the baulks of timber to which Mr. Fairburn refers was derived from the same source?

This Outram-way was laid between Willesley Basin to Ticknall Lime Works and the first part was in use for traffic from Ticknall in the year 1799 and was in use occasionally up to 1901. From the same details the word "railway" is mentioned as being a contraction of Jessop's edge-rail-way. Jessop and Outram were contemporary engineers.

Yours faithfully,
W. S. ROBERTS
Managing Director

[The derivation of the word "tramway" was dealt with at length in "The First Passenger Railway" by Mr. Charles E. Lee (The Railway Publishing Co. Ltd., 33, Tothill Street, Westminster, S.W.1, 5s. net.) and to which we would refer Mr. Roberts for an etymological discussion on the subject. Briefly, it may be said that the derivation of the word from "Outram" is rejected, and it is shown that the word "railway" was in use before Jessop's time.—ED. *R.G.*]

Railway and Civil Service Salaries

August 16

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—In the article on page 151 of *The Railway Gazette* of August 13, 1943, it is stated:—

> "... railway salaried staff generally are entitled to certain free and reduced fare travelling facilities for themselves and their families, the monetary equivalent of which obviously varies according to the extent to which they are utilised. For the purpose of this article they may perhaps be regarded as being worth £10 to £15 a year in normal circumstances."

It might be construed that this represents a definite cash addition over and above the rated salary.

Shortly after the last war there was an agitation in certain quarters to the effect that there was no justification for giving free and reduced fare travelling facilities to railway staff, and the question was actually raised in the House of Commons.

The then Minister of Transport replied that the practice of granting travelling facilities to railway employees was already taken into account in the fixing of the rates of remuneration.

The inference to be drawn from this is that the railway companies assess the value of a given job at a certain salary value, and then deduct an amount representing travelling facilities, the resultant figure being the rated salary. For instance, if a given job were valued at £250 a year, and the travelling facilities were estimated to be worth, say, £10, then the rate of remuneration for that job would be settled at £240.

If the individual does not make full or partial use of the travel facilities allowed, he loses on the deal because he is not getting the actual financial benefit of the value of the travelling facilities, which the Minister said were taken into account in fixing salary rates, and, therefore, he is not paid the full amount at which the job is originally valued.

Some take full advantage of the travel facilities which the railway companies grant, but even in normal times others do not, because of domestic circumstances, or for other reasons.

It is considered that the position as announced by the Minister, and which presumably holds good, should be made clear, lest anyone should think that, taking the job originally valued at £250, quoted above, the railway companies *add* to that an amount of, say, £10, representing the value of travelling facilities, which if not used remains in the pockets of the individual as a cash asset.

Yours truly,
TRAFFIC MAN

[We do not think the statement in our editorial can be construed in the manner suggested by our correspondent. The grant of free or reduced fare travelling facilities has been a condition of employment of railway staff for many years in common with certain other advantages associated with railway service which do not operate in industry generally and there is no doubt that, when railway salary scales were originally fixed, these considerations were taken into account. We suggest it could not be inferred from our remarks that staff not taking advantage of these facilities receive a cash payment in lieu, as their value to any individual is entirely dependent on the extent to which he takes advantage of them.—ED. *R.G.*]

St. Pancras and Broad Street Service

Bordyke, Burgess Hill,
Sussex. August 21

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—The service mentioned by Mr. Lascelles in your issue of August 20 was between St. Pancras Sidings, North London Railway, and Broad Street. These sidings are between Maiden Lane and Camden Town stations, on the south side of the line, extending (if my recollection is correct) from St. Pancras N.L. & Midland Junction on the west to N.L. & G.N. Junction on the east.

In the N.L.R. Service Time Book the name is inserted on each page in full in the timetables, but in the notes and references, scattered through the book, is called St. Pancras. It was this usage that misled Mr. Lascelles.

The service timetables for May, 1898, with the alterations for June and July bound in, show only one passenger train between St. Pancras Sidings and Broad Street, which is described as "Express Passenger." It left St. Pancras Sidings (presumably empty) at 9.25 a.m., called at Highbury 9.27, and Mildmay Park at 9.30, and was due at Broad Street at 9.37.

The St. Pancras Sidings were, and probably are still, the most important marshalling, etc., yard on the late N.L.R. Traffic to and from the Midland & G.N. lines was transferred, and goods trains to and from the L. & N.W.R., G.W.R., and G.E.R. called there.

The only Midland Railway passenger "train signal" (as engine headlamps and discs were then designated) over the N.L.R. (really N. & S.W.J.R.) was that carried by trains between Child's Hill and Gunnersbury.

Empty passenger trains from Broad Street and Chalk Farm were stabled at St. Pancras Sidings and are shown in the Service Timetables. The Sunday cessation of trains during morning church time necessitated three trains running empty from Chalk Farm to St. Pancras Sidings and returning to take up passenger service.

It is interesting to note that in this book staff trains are called [Railway] "Servants Trains."

Yours faithfully,
G. A. SEKON

AMERICAN WARTIME TRAVEL.—In the U.S.A. there is no official priority system for Servicemen, but on several railways personnel on leave are permitted to enter trains before ordinary passengers. Most railways serve no liquid refreshment after 10 p.m., and most also refuse to serve drinks save with meals. On other lines, a bar may be closed if the steward considers the crowd of prospective drinkers excessive. Certain railways, particularly those serving the large military-camp areas, dispense no liquor on their trains. Many of the trained dining-car employees have disappeared, and their substitutes work long hours, sometimes from 5.30 one morning till 1 or 2 o'clock the next; and, whereas in peacetime it was nothing unusual to add a second diner if more than 100 meals were expected, one dining-car crew of ten to thirteen now may serve up to 700 meals in the day. Pullman sleeping berths are difficult to get, and all sleeping-car space is sold out well in advance; indeed, not a few of the longitudinal berths in the older convertible cars are sold as double beds. No passenger equipment is being built, and a large proportion of that in existence is devoted to military needs. Some suburban workers travel on wooden benches installed in bogie box wagons.

The Scrap Heap

A COUPLET FROM "IN THE TRAIN"

The summer elms are darkest bottle-green,
The station master's dahlias now are seen.

Joyce Grenfell in "The Observer"

* * *

UTILITY ON RAILWAYS

Utility, utility,
We hear it everywhere,
On railways it predominates
And permeates the air.

No trimmings are permissible
And spare parts can't be found,
So everything has got to last
And travel round and round.

All fancy work is now debarred
From rolling stock and buildings,
And shining locos., once so smart,
Are shorn of all their gildings.

Art posters seen on station walls,
Ere yet the war had started,
Have lost their glamorous appeal,
Their beauty has departed—

Instead of urging us to see
The wonders of the nation,
They warn us to beware of spies,
Nor tell our habitation.

W. E. N.

* * *

RAILWAY RACKET

I hear of a remarkable racket at certain provincial railway stations. It has been made possible by the "rationing" of railway travel now operating. When a train is crowded to capacity, the booking office is closed and no tickets are sold until the train has left. Late arrivals at the booking office find the window closed and they must wait for the next train. It is at this point that the racketeer steps in. He has provided himself with tickets earlier and he offers to sell one to the frustrated traveller—needless to say, at an exorbitant price. Often, dismayed by the prospect of several hours delay, the traveller accepts the offer. A man I know has observed this at two stations in the Midlands. In each case the London train was standing in the station, crowded to the limits, and no more bookings were being accepted. The third-class return fare between Coventry and London is 19s. 3d. This man saw one sold for £3. This is a development of the old cup-tie ticket ramp. But selling a railway ticket at all, even for the correct price, is illegal. —*From "The Londoner's Diary" in the "Evening Standard."*

* * *

IRONICAL

Among the regular train travellers on a busy line coming into Glasgow is a man who decided to invest in a first-class season, so that he might travel in less crowded compartments. He got his new season yesterday, but when his morning train drew in at his station the firsts were all packed, and he travelled third, in a compartment by no means crowded.—*From "The Glasgow Herald."*

* * *

King Boris of Bulgaria, whose death was announced recently, was the holder of many scientific degrees and possessed a keen interest in mechanical subjects. He frequently drove locomotives in his own country; and, on November 5, 1937, by invitation of the L.M.S.R., he made a special run with the Coronation Scot from Euston to Bletchley and back. On the down journey, the locomotive was No. 6220, *Coronation*; on the footplate with King Boris were Mr. D. C. Urie, then Superintendent of Motive Power, Driver F. Bishop, and Fireman J. Cardwell; and the ten passengers included Sir Harold Hartley, Vice-President, Sir Ernest Lemon, then Vice-President, Mr. C. R. Byrom, then Chief Operating Manager, and Sir William Stanier, Chief Mechanical Engineer. A maximum speed of 88 m.p.h. was attained at Cheddington, and the average speed for the journey was 62·3 m.p.h. Afterwards, Lord Stamp, then Chairman & President of the company, presented King Boris with a model of the locomotive *Coronation*. King Boris was the only monarch who belonged to a trade union: as a wedding present, the Bulgarian Railwaymen's Union made him a life member.

* * *

TAILPIECE

(*The Midland Hotel, Manchester, opened forty years ago, set a new standard in comfort and service*)

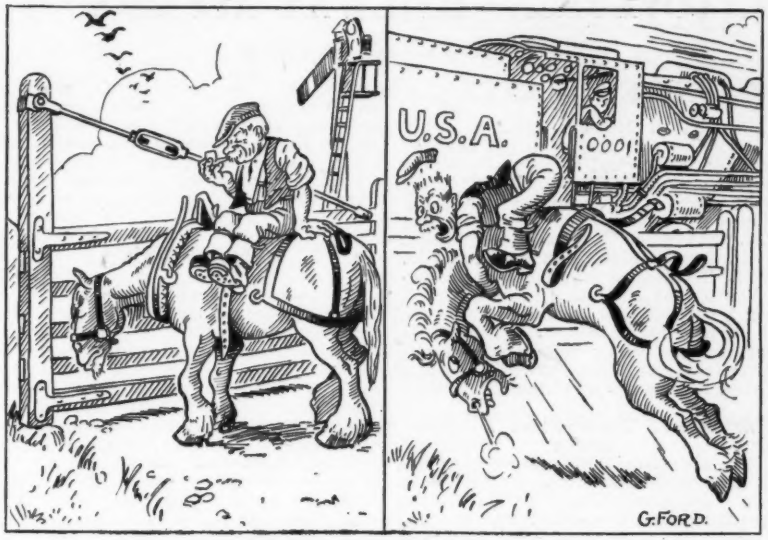
The Midland caravanserai,
The newest that the north could show,
The *ne plus ultra* of its day,
Was opened forty years ago.

A bedroom with a telephone,
Electric clocks, a bank bureau,
These luxuries were little known
Or dreamed of forty years ago.

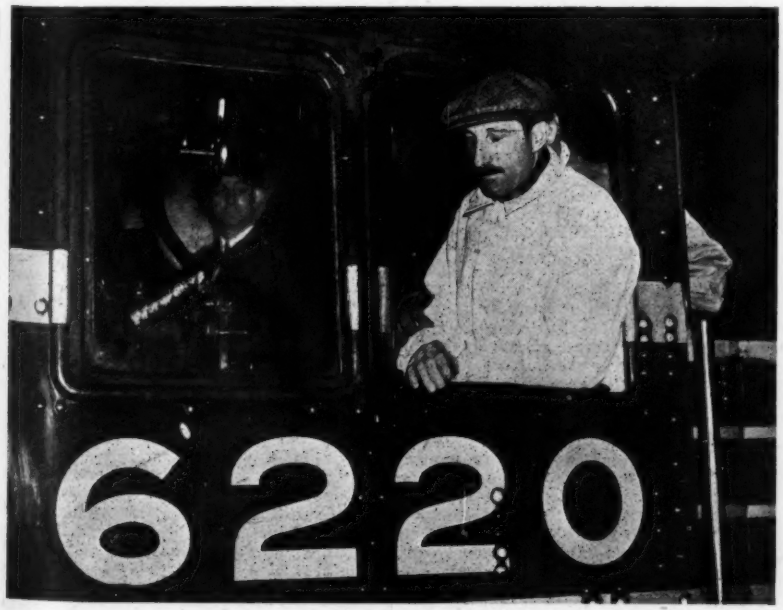
The Midland had them, these and more,
On garden roof, in rooms below.
The ladies used a special door—
But that was forty years ago.

The Midland keeps its opening fame
In spite of fashion's ebb and flow,
And Towle is still a noted name,
Today as forty years ago.

E. C.



"Ride him, ploughboy!"



The late King Boris of Bulgaria in the cab of L.M.S.R. locomotive No. 6220 "Coronation" which he "drove" from Euston to Bletchley in 1937

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

UNITED STATES

An Oversize Load

An awkward piece of freight handling recently was carried through successfully by the conveyance of a large transformer from Jackson, Michigan, to Milwaukee. The weight of the transformer was 83½ tons; and, when loaded on a well wagon, it stood 21 ft. above rail level, and was 11 ft. 2 in. wide. The task of conveyance was undertaken by the Michigan Central Railroad, which both received, moved, and delivered the transformer, though scant clearances in the town of Lansing made it necessary to divert the load for a short distance over Grand Trunk and Pere Marquette tracks.

Articulated Locomotives for Ore Traffic

The articulated 2-8-8-4 locomotives, ten in number, recently delivered by the Baldwin Locomotive Works to the Duluth, Missabe & Iron Range Railway, with their tractive force each of 140,000 lb., are among the most powerful articulated units in the country. This company conducts a heavy movement of ore from the Vermilion and Mesabi ranges in Minnesota to the docks at Duluth, Lake Superior, except during the mid-winter season, when ice on the Great Lakes makes navigation impossible. The length of run is not great, and the journey from the mines to the docks and back can be completed in 10 to 12 hr.; but, to work the traffic with a minimum locomotive stock, these engines, with their eight predecessors delivered in 1941, are designed to make the round trip, with loaded trains of 6,000 gross tons, without refuelling, and with no water stops between terminals. For this purpose they are provided with Commonwealth tenders of the rectangular "U" type, carried on 14 wheels (five fixed axles and leading bogie) which accommodate 26 tons of coal and 25,000 gal. of water. The heaviest grade against the load is 1 in 160 for 3 miles. As compared with the Mallet compounds previously in use, the new engines can handle 25 per cent. heavier loads.

The 2-8-8-4 locomotives each have four 26 in. × 32 in. cylinders; 5 ft. 3 in. driving wheels; 6,032 sq. ft. tube and flue heating surface, 726 sq. ft. firebox heating surface, and 2,770 sq. ft. superheating surface, a combined total of 9,528 sq. ft.; 125 sq. ft. grate area; 240 lb. per sq. in. working pressure; and a weight in working order of 312½ tons, of which 252 tons are available for adhesion. The tender, fully loaded, weighs 195½ tons, making a total for engine and tender of 508 tons. Valve-gear is of the Baker type, and the 12 in. piston-valves have maximum travels of 8 in. (front engine) and 7⅞ in. (rear engine). The boiler is of the straight-top type, 58 ft. 7½ in. long, and 8 ft. 8 in. in diameter. Total engine wheelbase is 67 ft. 2 in., and that of engine and tender, 113 ft. 4 in.

Articulated Locomotive Orders

The Bingham & Garfield Railroad has placed an order with the Baldwin Locomotive Works for two 4-6-6-4 articulated locomotives identical in design with the 20 recently ordered from the same builders by the Baltimore & Ohio Railroad.

One of the principal users of articulated steam locomotive power is the Union Pacific Railroad, which has equipped itself for its heavy wartime traffic through the Rockies by acquiring a total of 60 4-6-6-4 and 20 4-8-8-4 steam locomotives, all built by the American Locomotive Company. The latter, with their 300 lb. pressure, and engine and tender weights of 535 tons, are the largest and heaviest locomotives in the United States. A further 25 of the 4-6-6-4 type are on order for the Union Pacific Railroad.

ARGENTINA

Buenos Aires Transport

In consequence of the unsatisfactory situation of the Buenos Aires Transport Corporation and the disorganised state of its services, the deficiencies of which are a cause of complaint and criticism by both the press and the public, the Government has intimated its intention to intervene in the matter and to take measures for the complete reorganisation of the system

At the end of June, the members of the control board, Dr. J. Allende Posse (President), and Señores M. J. Rojas and A. Dell'Oro, resigned, and were replaced by nominees of the Government in the persons of Lt.-Colonel Mariano Abarca (President), Dr. Máximo Ezcurra, and Señor Luís García Mata. At the same time, the three municipal representatives of the corporation also resigned, and were replaced by the same number of Government nominees. Dr. Santiago H. del Castillo was appointed President of the corporation in succession to Dr. R. C. Segura, whose resignation from that position was recorded in *The Railway Gazette* of May 7 last (page 463).

The preamble to the Government Decree issued in connection with the foregoing changes stated that the directors would be empowered to take immediate measures to effect a reorganisation of the services, with a view to utilising the available equipment at the minimum working costs and fares. The new control board has been instructed to report to the Minister of the Interior within a period of 60 days as from July 1 in respect of the following:—

(1) The ability of the corporation to comply with its obligations, with suggestions to enable this to be done.

(2) Means for ensuring the efficient and economic working of the corporation.

(3) Any modifications deemed necessary in the corporation's contracts.

(4) A ruling to be given within 40 days as to the valuation of the assets transferred to the corporation by the various companies taken over; the possibility of the readjustment of the capital of the corporation; and the means whereby the Government and the municipal authorities can be allotted the representation to which they are entitled by the existing law.

Lack of Equipment

The difficulties of the Buenos Aires Transport Corporation have been aggravated by the war, which has made it impossible to obtain delivery of vehicles of various types ordered from the United States. The problem of maintenance and renewals is complicated by the difficulty in obtaining spare parts, with the result that many vehicles have had to be withdrawn from service. This shortage of rolling stock has resulted in serious traffic congestion, especially during rush hours, at which times the majority of trams and buses are abnormally, and even dangerously, overcrowded.

In an effort to solve the problem, the corporation, as an emergency measure, is experimenting with "seatless trams" for the conveyance of passengers over short distances. This arrangement enables double the number of passengers to be accommodated, besides allowing of cheaper construction.

PERU

Railway-Development Commission

Speaking recently to representatives of the Government, of commercial and industrial interests, and of the Peruvian Corporation Limited on the subject of the commission which, as recorded in *The Railway Gazette* of July 16, has been established by the Government to make a study of the country's railway system, the President of Peru said that railway building was costly and required time, but that they must take it in hand with resolution and determination so that Peru might meet the serious problems which would arise after the war. In order that the transition from war to peace economy might take place in an orderly manner it would be necessary to maintain numerous forms of direction and control, and a complete transport system would be essential. He added that a further step in the high industrial development of Peru would be reached in the near future with the establishment of an iron and steel industry in the Santa Basin.

SWITZERLAND

Anglo-American Press Trip

The Swiss Federal Railways and the Swiss National Tourist Department recently organised a tour by some 30 British and American press representatives, which included an inspection of the modern and comprehensive loud-speaker installation in Zurich Main Station, and demonstrations of the working of the automatic train-control system which has been extended since 1933 to all Federal electrified lines. A brief explanatory lecture was given by Ingénieur Felber, of the Federal Railways, in a special Red Arrow railcar standing in Zurich Station, after which the car was taken on to the Winterthur line and stopped at signals between Oerlikon and Effretikon to afford an opportunity of inspecting the track magnets and corresponding equipment on the railcars and engines (a full description of the Signum method of train control was given in the February 16, 1934, issue of *The Railway Gazette*). A recent development was demonstrated, consisting in a portable track-magnet, which can be fitted on the track at any point, and which is used to supplement the usual warning-signals requiring slow running for permanent-way repairs. This ensures that, should a driver fail to observe the warning signals and to press the "acknowledgment" button, a train would stop before reaching the section concerned.

FRANCE

Pyrenees Power Stations

It is stated that about 13 per cent. of the electric power produced in the Pyrenees is being absorbed by the French railways. The Fabrèges power station in the Ossau valley was placed in service recently, and work is progressing steadily, but not speedily, on the Génissiat power station on the River Rhône, close to the Swiss border. In the eastern Pyrenees, the installations of La Cassagne and Fontpédrouse have been enlarged, and a power station at Thuès (to the east of Fontpédrouse) has been completed. Reference to the development of electricity production in the Pyrenees was made in *The Railway Gazette* of September 19, 1941, page 276.

The Railways of Paraguay

The total mileage for public traffic is but 309; 274 on the 4 ft. 8½ in. gauge, and 35 metre gauge

PARAGUAY, with an area of 176,000 square miles, and a population estimated at 900,000, has only one railway of importance. This is the Paraguay Central, a line of 274 miles in length on the standard 4 ft. 8½ in. gauge, owned and worked by a British company. The mileage includes 19 miles of sidings, as well as the portion already built of the branch from Borja Junction, intended ultimately to connect to Iguazu. The main line, 235 miles in length, runs diagonally across the southern half of the Republic, connecting Asuncion, the capital, with Villa Encarnacion on the river Paraná, where a train ferry enables direct connection to be made with the standard-gauge system of the Argentine North-Eastern Railway.

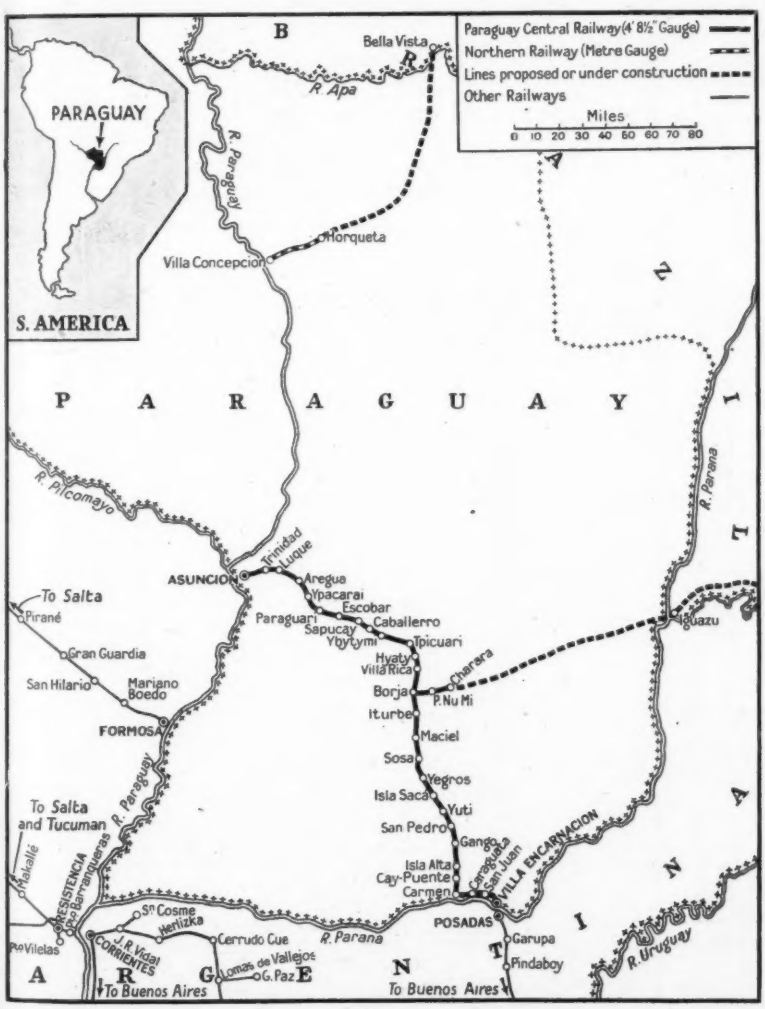
The Paraguay Central is one of the oldest railways in South America, dating back to 1854, when the first surveys for a railway between Asuncion and Villa Encarnacion on the 5 ft. 6 in. gauge were made by engineers summoned from England by President Solano Lopez. The first section, to Paraguari, 45 miles, was opened in 1861. The unsettled condition of the country delayed construction for some years. In 1889 the Paraguay Central Railway Co. Ltd. was formed in London, and continued the construction under a Government guarantee. The guarantee fell into arrears and a reconstruction of the company's finances took place in 1907. In 1911 the gauge of the railway was converted from 5 ft. 6 in. to 4 ft. 8½ in. to facilitate through working with the Argentine North-Eastern system, and the line to Encarnacion was opened in the same year.

The only other public service railway in Paraguay is the privately-owned Northern line (Ferrocarril del Norte), running between Villa Concepcion and Horqueta, 35 miles, on the metre gauge. This railway was constructed in 1910 to serve a saw-mill industry, but it is authorised to carry public traffic. The company holds a concession, dating from 1915, for an extension from Horqueta northwards to Bella Vista on the Brazilian frontier, but no part of this proposed line appears to have been constructed.

In addition to the railways open for public service, there are several industrial lines carrying forest and plantation produce from the interior to points of embarkation on the river Paraguay. The following is a list of the most important of these industrial railways:—

Railway	Gauge	Mileage
Puerto Pinasco	Metre	59
Puerto Ibapobo	Metre	20
Puerto Casado	2 ft. 6 in.	223
Puerto Sastre	2 ft. 6 in.	56
Puerto Guarani	2 ft. 6 in.	57
Tebicuary		25
Total		440

Recent changes in the political and economic factors affecting the Paraguayan railways are discussed in an editorial article on page 225.



Sketch map of the existing and proposed public railways of Paraguay

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SPANISH ROLLING-STOCK POSITION.—Official figures, published recently, of the numbers of locomotives, coaches, and wagons in service in Spain show the progress attained between January 1, 1942, and January 1 of this year:—

	Number in service on January 1	
	1942	1943
Locomotives		
Broad-gauge	2,475	2,579
Narrow-gauge	459	474
Total	2,934	3,053
Coaches		
Broad-gauge	2,816	3,078
Narrow-gauge	1,163	1,173
Total	3,979	4,251
Wagons		
Broad-gauge	64,997	69,959
Narrow-gauge	14,060	14,464
Total	79,057	84,423

Repairs which are being carried out at present are not confined to locomotives and rolling-stock units in need of routine overhaul or of repairs made necessary by normal wear and tear; stock damaged in the course of the civil war also is receiving attention. The following official figures show the numbers of unserviceable locomotives, coaches, and wagons in Spain on January 1, 1942, and 1943, respectively:—

	Number unserviceable on January 1	
	1942	1943
Locomotives		
Broad-gauge	595	501
Narrow-gauge	217	208
Total	812	709
Coaches		
Broad-gauge	1,343	932
Narrow-gauge	352	306
Total	1,695	1,238
Wagons		
Broad-gauge	9,549	6,144
Narrow-gauge	2,250	1,973
Total	11,799	8,117

The increased availability of wagons has enabled the volume of goods conveyed over the Spanish railways to be increased by approximately 5 million *tonnes* during the period concerned. Steps taken to rationalise the use of wagons, to speed up loading and unloading, to reduce demurrage, and other measures, resulted in an average reduction in turn-round from 9·9 to 7·2 days. The average yearly number of journeys made by a wagon increased from forty to fifty.

SHANGHAI TRAMWAYS.—According to information from Shanghai, the Compagnie Française de Tramways et d'Eclairage Electrique de Shanghai, of Paris, is to be taken over by the Shanghai municipality as a result of France having renounced to her extra-territorial rights in Shanghai. The company has a share capital of French francs 125,000,000.

L.N.E.R. NEW STANDARD CONCRETE PLATELAYERS HUT

(See article on opposite page)

L.N.E.R. Concrete Huts for Platelayers

A new standard design which combines comfort with utility and safety from fire

THE L.N.E.R. is systematically replacing by concrete structures of modern design the rather untidy and drab-looking timber shacks, which, in the past, have been provided as shelters for engineer's staff working on the permanent way.

A plentiful supply of old railway sleepers, which possess a comparatively long life, has accounted for the use of the familiar timber platelayers' huts for so many years, but considerable labour is needed to keep them clean and orderly inside and weatherproof outside. There is also always the risk of fire, especially in hot dry summers, and many huts have been burned down.

The L.N.E.R. has accordingly experimented with huts constructed of pre-cast and pre-fabricated concrete sections with the aim of providing a structure which will not only serve as a temporary shelter in bad weather, but as a place which the permanent way staff can use during meal intervals when at work in locations remote from their home stations or depots. The experiments, incidentally, have formed a small part of the general efficiency campaign which was initiated some years ago by Sir Charles Newton, Chief General Manager of the company. This campaign includes the improvement and tidying up of L.N.E.R. property, but it was largely suspended because of the war.

As a result, a structure has been evolved which is clean, weatherproof, very much more pleasing in its appearance, and a good deal more comfortable in its interior than the old kind of platelayers' hut.

The new-type hut, which has now been adopted as a standard for the future, is rectangular, and has a door which can be locked, a nine-light window, and is fitted with a stove for heating and for warming up food and drink. The structure also contains a table with extension leaves and lock-up drawers, coat hooks fixed conveniently near the stove, a coal and firewood locker, a bin divided into compartments for various kinds of stores, racks for tools and the usual equipment and lamps for the lookout men.

The new concrete huts will normally accommodate 3 to 6 men and will generally be erected on the lineside at about 1 mile intervals. They are constructed in sections so that they can readily be dismantled and re-erected on other sites if necessary. Their design, which also provides for extension simply by the addition of extra pre-cast sections, has been evolved after exhaustive experiments by the L.N.E.R. Engineers Department.

(*See illustrations opposite*)

L.N.E.R. NEW STANDARD CONCRETE PLATELAYERS HUT

(*See article on opposite page*)

New Canadian Pacific Railway Box Wagons

Considerable quantities of steel are saved by the use of wood and of lighter castings, and by the employment of welding

Considerable quantities of steel have been saved by the substitution in "Victory" box wagons of the Canadian Pacific Railway for sheeting purposes of $\frac{3}{8}$ in. thick plywood, introduced in this type of construction by Mr. H. B. Bowen, Chief of Motive Power & Rolling Stock for the system. Also helping to save steel is a second type of "Victory" box wagon in which $1\frac{1}{2}$ in. thick wood is substituted. On both types, welding instead of riveting, and the development of lighter castings, adds to the supply of metal made available for other purposes. It is estimated that 850 tons of steel have been saved on the 750 wagons recently delivered which add 38,000 tons to the company's load-carrying capacity.

In 500 of the wagons plywood is substituted for the outside steel-sheathing formerly used, but the inner lining of wood has been retained. The remaining 250 wagons have $1\frac{1}{2}$-in. thick wood inside the steel side-posts, taking the place of both the steel sheathing and of the inner lining of wood. The corrugated ends, doors, and steel corner-posts common to steel-frame vehicles are maintained in both types. Other features of this type of wagon found in the new models include solid roofs with outside wagonlines, steel underframes, cast-steel truck bolsters with lateral-motion devices, and cast-steel stabilised trucks, which improve riding conditions. The wagons are equipped with the latest type of air and hand brakes. The floors are of eastern spruce, which releases British Columbia fir for other war purposes.

On each of the plywood-sheathed vehicles, 2,500 lb. of steel is saved (not, as stated in our December 18, 1942, issue, 1,800 lb.); and, on the other type of "Victory" wagon, 1,800 lb. The difference in weight is made up mainly in six steel diagonal braces required for support on the wagons in which $1\frac{1}{2}$ in. thick wood takes over the function of outside-sheathing and inside lining. Both of the "Victory" types have been subjected to exhaustive tests, which have proved the vehicles satisfactory.

In the first type, five-ply British Columbia fir, $\frac{5}{8}$ in. thick, is used to replace the steel, $\frac{1}{10}$ in. thick, formerly employed. This plywood is hot-pressed, resin-bonded, and is one of the newer developments in this field. It is bolted to the steel side-posts, and inside wooden lining, $\frac{13}{16}$ in. thick, completes the construction.

The greatest saving in steel is on the sheathing, but the contributions of welding and of skeltonised castings are considerable. Welding is helping, for example, on the steel side-frames by eliminating certain steel gussets which would have been necessary if rivetting had been employed. In the castings for the bolster centre braces and the striking casting, large holes are left in the web, where the strength is not affected, and are used to weld the castings in place. Formerly solid castings were needed to take the rivets. A saving of steel of 450 lb. is effected by this alone. At the same time, the efficiency of these important parts is maintained. The striking casting's function is to house the movable coupler carriage and act as a front stop for the draft gear. The centre brace strengthens the centre sill at the pivot point for each four-wheel truck and serves as a backstep for the draft gear.

The single-wood-sheathed vehicles are built to remain in service as they are, with the sheathing inside the steel side-frame. The plywood-sheathed wagons have an added advantage of being suited for conversion to steel sheathing after the war, if it should be desired.

The inside dimensions of the units sheathed with plywood are: 40 ft. 6 in. in length; 9 ft. 2 in. in. width, and 10 ft. in height. The only difference in the other wagons is that they are $\frac{3}{4}$ in. narrower by reason of the single sheathing going inside the side-posts.

All the vehicles, a number of which each have been built by the National Steel Car Company, in Hamilton, the Canadian Car & Foundry Company, in Montreal, and the Eastern Car Company, in New Glasgow, N.S., had been placed in service, it is understood, by September 1.

FRENCH NATIONAL RAILWAYS RESULTS.—According to information from Paris, receipts and expenditure for 1942 of the French National Railways balanced: the total for each was fr. 27,548,000,000.

XUM

The Midland Hotel, Manchester

Opened forty years ago, September 4, 1903

FORTY years ago, the Midland Hotel, Manchester, was opened and set a new standard in comfort and service. The Midland Railway Company already owned and operated many fine hotels in various parts of the country, notably in London, Liverpool, Leeds, and Bradford, and to the construction of the Midland Hotel, Manchester, Mr. William Towle, who received the honour of Knighthood in 1920, Manager of the Hotel & Refreshment Department, brought to bear his long experience, practical knowledge, and unceasing labour which had attributed so largely to previous successes of this kind. It was on Mr. Towle's advice that the site of about two acres, on which the hotel stands, was purchased by the Midland Railway Company, and it was fitting that after five years of work it was opened in 1903 on Mr. Towle's birthday.

In a description of the hotel, and of the opening ceremony, which appeared in our constituent, *Transport*, on September 11, 1903, it was stated that the hotel had some 600 rooms, and some 55,000 cubic feet of terra cotta was represented on the building. There were nearly 100 baths, including a Turkish bath. The style of the building was Renaissance, freely adapted by the architect, Mr. Charles Trubshaw, F.R.I.B.A. Brown vitrified terra cotta was extensively used in the exterior treatment of the building; the highly-glazed surface of this material possessed this advantage among others that it was less liable to dirt, and possibly decay, than rough ordinary brick or stone work, and thus was more easily cleaned by the natural operations of rain. The main entrance in Peter Street gave admittance to the winter garden, and the reception hall contained such amenities as postal, telegraph, and telephone facilities, a banking bureau, and similar conveniences, which at that time were in advance of general hotel practice. The roof garden and concert hall, which accommodated some 850 people and could be adapted to take 1,000, were features of the building. The dining rooms comprised the French restaurant, the coffee room, the grill room, and the German restaurant, all luxuriously decorated.

One interesting feature that shows the change in social customs during the past forty years was that in accounts of the new hotel special attention was paid to the needs of lady patrons, for whom a separate entrance in Mount Street was provided, and in addition Mr. Towle originated the idea of a suite of rooms especially reserved for the use of ladies!

From the commencement, arrangements in the Midland Hotel also had been made with a special view to the needs of the business man, and the best facilities for him were installed. Telephones, rooms for samples, the traders' business room, sale and auction rooms, were incorporated in the hotel with a view to lessening the work of the busy manufacturer or merchant.

Many features, which were at that time novel, were included in the improvements introduced into the 300 bedrooms. Each had its own clock dial synchronised from a main point; each room also had its own telephone, of which there were over 500 in the hotel.

The kitchens contained the most modern cooking installations then available, and the organisation provided enabled several thousand guests to be served at the same time.

At a Press Banquet, held on the occasion of the opening ceremony, Mr. H. T. Hodgson, a director of the Midland Railway Company, presided, and Sir James Hoy proposed the toast, "Success to the Midland Hotel," to which Mr. Towle replied. Sir Henry Wiggin proposed "The Press," to which Mr. W. H. Lucy ("Toby, M.P." of *Punch*) and Mr. Hugh Spottiswoode replied. The Bishop of Ripon responded to the toast of the visitors.

MENU

Melon de Chypre. Caviar de Sterlet.

Amontillado Fino. Tortue Claire. Crême Mariquy.

Berncastler Doctor, 1893. Suprême de Sole Edward VII. Mousseline d'Ecreveisses Sultane

Louis Roederer, Extra Dry, 1893. Poularde Soufflée Régence. Mignonnes d'Agneau, Derby.

Neige Rosée au Clicquot.

Musigny, 1887. Grouse d'Ecosse à la Broche. Salade Niçoise.

Chat. Leoville Lascases, 1878. Fonds d'Artichauts Princesse. Timbales de Pèches de Montreil. Alexandra.

Crofts, 1863. Parfait Glace Grand Succes. Friandises Artistique.

Paillettes Diablotines.

Corbeilles de Fruits.

Fine Champagne, Midland, 1825. Café. *Liqueurs.*

Cigars *J. S. Murias Salamones Divinos. Lo Mejor Invencibles, Lo Mejor Deliciosos.*

TOAST LIST

1. "The King."
2. "The Queen, the Prince and Princess of Wales and the Royal Family."
3. "Success to the Midland Hotel."
   SIR JAMES HOY, LL.D.
   Reply—WM. TOWLE, Esq.
4. "The Press."
   SIR HENRY WIGGIN, Bart.
   Reply—HUGH SPOTTISWOODE, Esq. W. H. LUCY, Esq
5. "The Visitors."
   THE CHAIRMAN.
   Reply—The Right Rev. THE LORD BISHOP OF RIPON.
6. "The Chairman of the Evening."
   E. J. BROADFIELD, Esq.
   Reply—H. T. HODGSON, Esq.

PROGRAMME OF MUSIC

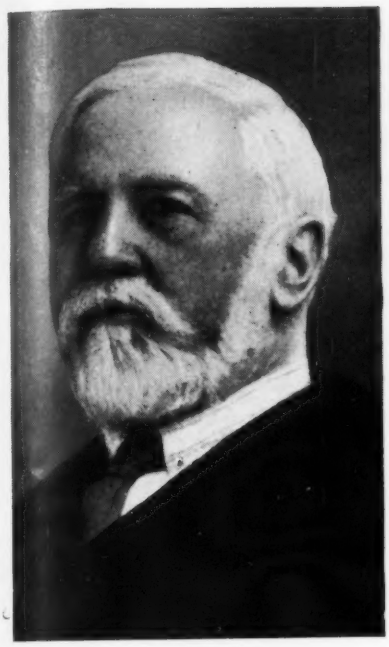
	"Kaiser Frederic"	–	Friedemann
Waltz –	"Legende de la Foret"	–	Strauss
	"Lettre á Manon"	–	Gillet
Selection –	"Merrie England"	–	German
	"Salut d'Amour"	–	Elgar
Overture –	"Der Freischutz"	–	Weber
	"Aria e Romanza" from Martha		Flotow
	Sung by Signor Francesco Daddi, from the Covent Garden Theatre,		
	"Smoky Moky"	–	Penn
Selection –	"Toreador"	–	Caryll
	"In Freien Stunden"	–	Mori
	"Au Molin"	–	Gillet
Selection –	"The Girl from Kay's"	–	Caryll
	"The Dream"	–	Tosti
	Sung by Signor Francesco Daddi.		
Waltz –	"Frühlingsstimmen"	–	Strauss
	"Père la Victoire"	–	Ganne

Small reproduction of the menu card of the Press Banquet on Friday, September 4, 1903

SALVAGE AFTER THE WAR.—A reminder that after the war Great Britain will be a debtor country, having to pay for all imports by exports, and that the salvage of all raw materials would remain a vital necessity, was given by Mr. C. U. Peat, Joint Parliamentary Secretary to the Ministry of Supply, when opening a Yorkshire salvage and book-recovery drive at Bradford recently. He said that, at present, with only about one-third of the raw materials, we were producing a greater supply of warlike stores than at the start of the war, a result achieved by discovering substitutes and repairing articles which otherwise would have been thrown away. The salvage collected by local authorities alone from the start of the war to June 30, 1943, was enough to have saved 530 cargo ships each carrying 8,000 tons.

ROSARIO PORT AFFAIRS.—To settle what had threatened to develop into a protracted legal dispute, the President of Argentina has signed a Decree ordering the legal representatives of the Rosario Port Company (the former concessionaire) to transfer to the Port Director appointed by the Government all books, files, and other documents pertaining to both the administration and accountancy departments. The Rosario Port Company had appealed to the courts against the order to hand over these records on the grounds that these were required by the company for administrative and statistical purposes. The company contended that the Government Decree relating to the transfer of the port (see our February 5 issue, page 137) made no reference to its records, which, it maintained, were private property, and therefore quite independent of the conditions of the concession under which it had operated the port.

Fortieth Jubilee, Midland Hotel, Manchester



Sir William Towle

Entrance to Midland Hotel from Central Station, Manchester

View of the Midland Hotel, Manchester, from St. Peter's Square

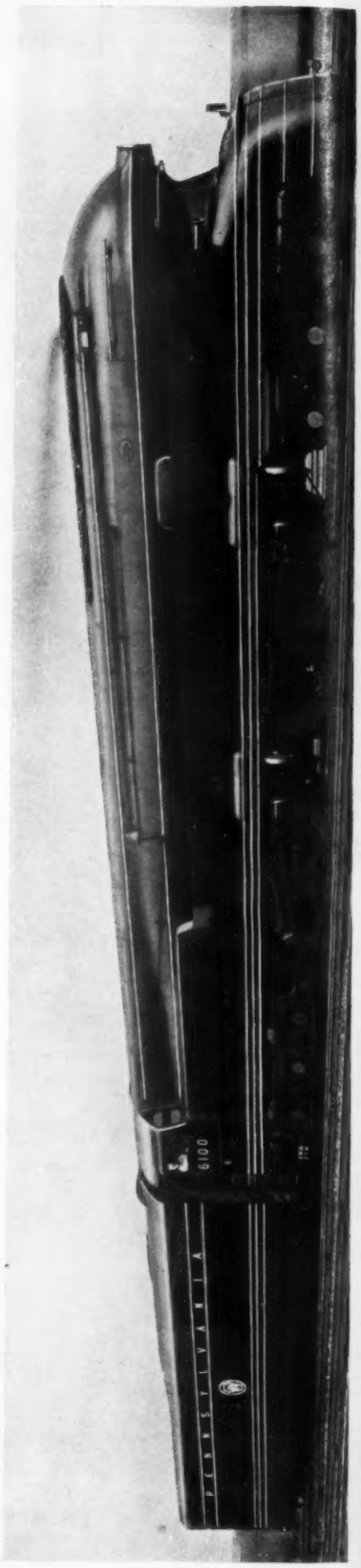
Recent Pennsylvania Steam Locomotives

The 6-4-4-6 express engine introduced in 1939 has attained 101 m.p.h. with a trailing load of over 1,250 tons

THE streamlined 6-4-4-6 express locomotive, numbered 6100, built for service on the Pennsylvania Railroad at its Altoona shops, to the joint designs of that company's Motive Power Department and the principal American locomotive building firms, was fully described and illustrated in the September 27, 1940, issue of *The Railway Gazette*. Until the advent of No. 6100, the express passenger work over all the principal non-electrified Pennsylvania main lines had been handled by the capable "K4s" Pacifics, of which 425 were in service; but over the heavy grades between Altoona, Pittsburgh, and Crestline, and on the fast schedules between Crestline, Fort Wayne, and Chicago, ranging in speed from 68 to 73½ m.p.h. from start-to-stop, tare loads in excess of 870 tons (of 2,240 lb.) had made piloting of the Pacifics necessary. The design of No. 6100 was drawn up with the intention of providing a maximum power output equivalent to that of two of the Pacifics in tandem. To reduce the weight of the moving parts that would be required for a two-cylinder locomotive of such power, however, and also to avoid the use of inside cylinders and to provide greater flexibility of wheelbase than would be possible with an eight-coupled locomotive, the drive was divided, and two independent groups of four-coupled driving wheels were incorporated; to support the heavy leading and trailing ends of the engine six-wheel bogies were provided, and the result was the 6-4-4-6 locomotive chassis, to which was attached the first 16-wheel tender on record, carried on two eight-wheel bogies. The behaviour of an engine embodying these radical departures from tradition are of considerable interest, and we are indebted to Mr. H. W. Jones, Chief of Motive Power, Pennsylvania Railroad, for the service data that follow, and for the accompanying photograph of No. 6100 at work.

The engine was assigned to passenger service between Crestline, Ohio, and Chicago, Illinois, in December, 1940. In the 22 months to the end of September, 1942, it had completed 102,000 miles on fast and heavy express-passenger duty; the average monthly mileage was thus 4,630 and the maximum was reached in August, 1941, when in 31 days No. 6100 made a total of 10,338 miles, averaging 334 miles a day. As an example of maximum capacity, No. 6100 has worked a train of 16 cars, mainly Pullman stock, weighing empty 1,342 tons (1,198 tons of 2,240 lb. and probably 1,250 to 1,300 tons gross weight behind the tender) from Chicago to Crestline, 279·6 miles, at an average running speed, excluding stops, of 66 m.p.h. throughout, using 36 tons of coal (of 2,000 lb. equal to 257 lb. a mile) and 36,948 U.S. gal. of water (132 gal. a mile). The coal consumption appears extremely heavy, but the full weight of engine and tender alone amounts to 473 tons, so that the gross moving weight was probably about 1,750 tons; also bituminous coal was used of a lower calorific value than that normally used in this country. With the same train, the return journey from Crestline to Chicago was completed at an average running speed of 63 m.p.h.; on this trip a maximum speed of 101 m.p.h. was attained. Westbound the coal consumption came down to 214 lb. a mile, but the water consumption was unchanged. The gradients over this section, which lies west of the Alleghenies mountains, and over the flat country to the south of Lakes Erie and Michigan for the most part do not exceed 1 in 200 to 1 in 300.

A SWEDISH SPEED ATTAINMENT.—Reuters states that one of the Swedish State Railways locomotives of the "F" type recently hauled a train of 644 tons tare between Stockholm Central Station and Malmö, during the course of which journey a maximum speed of 120 km.p.h. was attained. As stated in our June 26, 1942, issue, the locomotive is constructed for a maximum speed of 135 km.p.h. It is 15·2 metres long, weighs 102 tons, and can develop 3,600 h.p. The State Railways are said to be preparing another type of electric locomotive for operating in Norrland, a region containing steep gradients. It is stated that it will have a maximum speed of 80 km.p.h.



Pennsylvania Railroad 6-4-4-6 express locomotive, No. 6100, of which some operating statistics are now available

RAILWAY NEWS SECTION

PERSONAL

The Rt. Hon. Lord Burghley, M.P., who is at present Controller of Overseas Supplies & Aircraft Repairs, Ministry of Aircraft Production, and a Director of the London & North Eastern Railway Company, has been appointed Governor & Commander-in-Chief of Bermuda, in succession to Viscount Knollys, who resigned recently on his appointment as Chairman of the British Overseas Airways Corporation.

Mr. W. Dunsmuir, District Locomotive Superintendent, Inverness, L.M.S.R., who, as recorded in our August 20 issue, has been appointed District Locomotive Superintendent, Perth, entered the service of the former Caledonian Railway in December, 1907, serving his apprenticeship in the workshops at Polmadie and St. Rollox. After grouping, he was appointed, in July, 1929, Head Office Inspector, Motive Power, and in October, 1933, he went to Carlisle (Kingmoor) as Foreman Fitter. For a time he acted as Assistant to Mr. E. L. Booth, District Locomotive Superintendent, at the former Midland sheds, Durranhill. Mr. Dunsmuir was appointed Locomotive Foreman at Aberdeen in April, 1938, and became District Locomotive Superintendent Inverness, in March, 1939.

Mr. W. Dunsmuir

Appointed District Locomotive Superintendent, Perth, L.M.S.R.

Mr. O. H. Corble, who is Assistant General Manager (Ancillary Services), L.N.E.R., has been elected a Director of the Hull & Netherlands Steamship Co. Ltd., in succession to Mr. R. Bell (who retired on May 31 last from the position of Assistant General Manager, L.N.E.R.).

MINISTRY OF SUPPLY

Mr. G. Clement Jenks has resigned, for personal reasons, his appointment as Director of Hand Tools. He will continue to assist the Ministry in a technical advisory capacity.

The Minister has appointed Major-General Sir Basil Hill, K.B.E., C.B., D.S.O., to be Director of Hand Tools. Sir Basil Hill was formerly Controller of Ordnance Services at the War Office.

Sir Thomas A. L. Brocklebank, who is a Director of the London Midland & Scottish Railway Company, has been appointed Director of the Royal Insurance Co. Ltd., and of the Liverpool & London & Globe Insurance Co. Ltd.

Mr. A. R. Jefferson, A.M.I.Mech.E., Acting Assistant Locomotive Running Superintendent, Scottish Area, L.N.E.R., who, as recorded in our June 4 issue, has been appointed Acting District Locomotive Superintendent, Newcastle, was educated at Ackworth School, Yorkshire, and at Doncaster Technical College. In 1919 he became a premium apprentice to the late Sir Nigel Gresley at Doncaster, where he gained experience in various sections of the works and drawing offices; later he obtained experience also at the locomotive sheds at Peterborough and Stratford. In 1927 he was appointed Fitter-in-Charge, Leicester Locomotive Shed, and in 1928 became Assistant Running Shed Foreman, New England, Peterborough. A year later he was made Running Shed Foreman at Tuxford, and in 1930 was appointed Junior Technical Assistant to the Locomotive Running Superintendent for the Southern Area. In 1934, Mr. Jefferson became Assistant District Locomotive Superintendent, Ardsley, and three years later took up a similar position at Heaton. In 1939 he became Technical Assistant to the Locomotive Running Superintendent, North Eastern Area, at York, and last year was appointed to act as Assistant Locomotive Running Superintendent, Scottish Area.

Mr. A. R. Jefferson

Appointed Acting District Locomotive Superintendent, Newcastle, L.N.E.R.

We regret to record the death on August 20 of Mr. E. R. Soames, who had been associated with the British Electric Traction Co. Ltd. for over 30 years. At the time of his death he held the following appointments (among others) within the group: Deputy-Chairman of the South Wales Transport Co. Ltd. and of the Swansea Improvements & Tramways Company; and Acting Chairman of the Electrical & Industrial Investment Co. Ltd. He was a member of the council and of the executive committee, and chairman of the insurance committee of the B.E.T. Federation Limited.

Mr. C. T. Hurry Riches, M.I.Mech.E., whose death we recorded last week, was Divisional Locomotive, Carriage & Wagon Superintendent, Cardiff Valleys Division, G.W.R., from 1922 until his retirement in 1939. Mr. Hurry Riches served his pupilage at West Yard, Taff Vale Railway. He won an engineering scholarship at the University of South Wales, and later took up an appointment as Assistant Works Manager with the firm of Browett, Lindley. Subsequently Mr. Hurry Riches became an inspector with Messrs. Rendel & Robertson (now Messrs. Rendel, Palmer & Tritton), consulting engineers for the Indian State Railways, leaving to take up the position of Assistant Works Manager in the Locomotive Department of the Great Central Railway at Gorton Works. In 1906 he was appointed Locomotive, Carriage & Wagon Superintendent of the Rhymney Railway, which in 1922 became part of the Great Western Railway. Mr. Hurry Riches had been President of the Locomotive Association of Great Britain & Ireland, and Chairman of the Engineering Advisory Committee of the Technical College, Cardiff.

The late Mr. C. T. Hurry Riches

Divisional Locomotive Carriage & Wagon Superintendent, Cardiff, G.W.R., 1922-39

The President of the Board of Trade has appointed Sir William Goodenough, Deputy Chairman of Barclays Bank Limited, as Chairman of the Export Guarantees Advisory Council and the Executive Committee of the Export Credits Guarantee Department.

We regret to record the death, after an operation, of Mr. J. F. Phillips, Assistant Secretary of Powell Duffryn Associated Collieries Limited, and of Powell Duffryn Steam Coal Co. Ltd.

Mr. T. C. Elliott, London Manager of the D.P. Battery Co. Ltd., has retired.

Mr. W. D. Havelock, Manager, King George Dock, Hull, L.N.E.R., has been

Pennsylvania Railroad 6-4-4-6 express locomotive, No. 6100, of which some operating statistics are now available.

XUM

lent by the company to the Colonial Office to take up an appointment as Port Manager, Takoradi, Gold Coast, for the duration of the war.

Mr. F. J. Hills, London Manager of the Metropolitan-Cammell Carriage & Wagon Co. Ltd., who has been ill for some time, is making good progress, but it is understood that he will not be able to return to his office for a little while.

Mr. T. G. Bradley, of Morris Engines (Coventry) Limited, has been appointed an Assistant General Manager of Baldwins Limited, as from October 1 next, and will be in charge of its light-alloy section in South Wales.

We regret to record the death of Mr. F. H. Dashwood, who was Principal Assistant to the Stores Superintendent, G.W.R., from 1937 until his retirement in 1940.

Commander Stephen King-Hall, M.P., who was appointed last autumn honorary Director of Publicity in the Ministry of Fuel & Power, is to be released from this work as he wishes to devote his whole time to Parliamentary duties.

Destroyed arch in the famous Brighton railway viaduct, showing rails and sleepers left suspended, after the sharp German air raid which damaged railway rolling stock and properties last May. (*See also general view below*)

Damage outside Brighton Central Station resulting from a sharp and concentrated air raid by German fighter-bombers last May. One bomb damaged an arch of the famous Lewes viaduct seen in the background

RAILWAY BOMB DAMAGE AT BRIGHTON

TRANSPORT SERVICES AND THE WAR—205

Conductors on Single-Deck Buses

The Minister of War Transport has now made the Public Service Vehicles (Equipment and Use) (Amendment) Regulations, which permit any single-deck bus to be run without a conductor if the Regional Transport Commissioner certifies that, in his opinion, on a particular service or in particular circumstances, no conductor is required. Until now, the Regional Transport Commissioners have had the power to dispense with the conductor only in the case of a single-deck bus seating not more than 26 passengers. Notice of the Minister's intention to make the new regulations, in order to save manpower, was given on July 6 last, and was recorded in our July 16 issue, page 69. The Regulations are dated August 17.

Railways and War Gas

Many full-scale training exercises have been held at various points on the British railways to give the railway A.R.P. staffs practical experience of dealing with locomotives and rolling stock contaminated with liquid blister gas, and of repairing permanent way damaged by high explosives and contaminated by persistent gas. One such exercise was held on the L.N.E.R. at Woodham Ferrers on July 30, and the accompanying illustration shows in progress the work of filling in the crater and removing damaged track. There are 47 specially-equipped A.R.P. cleansing vans which can be moved to any point where local facilities are inadequate or non-existent. The equipment includes an undressing room; bins for contaminated clothing, and an air-locked zinc-lined washing room with hot and cold showers and a special draining floor; and, through a second air-lock, a dressing room in which are seat lockers containing fresh clothing.

Road Transport Cafés

Since the early days of the war the Road Haulage Central Wages Board has made every effort to ensure adequate facilities for rest and refreshment for road transport workers and in order that the efforts might be carried on the more effectively the employers' & workers representative on the board set up the Road Transport Catering & Accommodation Joint Committee in August 1942. Conferences have taken place from time to time with the Ministry of Labour regarding café staffs; with the Ministry of Food in connection with supplies of both rationed and unrationed foods; and with the Ministry of War Transport on a variety of general questions. Difficulties created by the war cannot be overcome entirely but nevertheless considerable improvements have been effected. For instance, as a result of the Board's efforts, in cases where 60 per cent. or more of the customers served are manual workers, the establishment concerned may be registered as a Category "B" catering establishment, and so become entitled to additional allowances of rationed goods on the same basis as industrial canteens. Apart from general questions of policy, individual proprietors have been given advice and assistance upon a variety of problems. All this has been done jointly by the committee for the purpose of improving the lot of the man on the road who is playing so important a part in the war effort. In order further to assist road transport workers in their search for food and accommodation on the road, a "Directory of Road Transport Cafés" has been issued, price 6d., listing such places under counties and then under the nearest town or village; both counties and places are arranged alphabetically. A series of symbols indicates the kind of accommodation available (including parking and sleeping), and opening and closing times. As this is the first edition, it may well have omitted some places which deserve inclusion, but a scrutiny reveals the inadequacy of accommodation in many parts of the country. The following organisations are represented on the Road Haulage Central Wages Board:—*Employers:* The Associated Road Operators, the Commercial Motor Users' Association, the National Association of Furniture Warehousemen and Removers, the National Road Transport Employers' Federation, the Scottish Carriers & Haulage Contractors' Association, the Scottish Commercial Motor Users' Association, and the Coal Merchants' Federation of Great Britain. *Workers:* The Transport & General Workers' Union, the National Union of General & Municipal Workers, the Liverpool & District Caterers & Motormen's Union, the United Road Transport Workers' Association, and the Scottish Horse & Motormen's Association.

Railway Sabotage from Serbia

Recent information received by the Jugoslav Government in London indicates that the railway sabotage in Jugoslavia, especially in Serbia, continues with unabated intensity. On May 17 a fully-laden goods train was wrecked near the station at Ralye; on May 23 a military train was blown up at Kusatk (140 Germans lost their lives on this occasion); on May 25 another goods train was blown up near Barič; and by the end of May another train was wrecked near Nish. This sabotage is a great worry for the Germans, and their reprisals increase against the population. The Nazis recently transferred to Serbia a military Railway Battalion which previously was busy in the Caucasus.

As the German fear of a Balkan invasion grows, so are they trying to repair all railway lines as quickly as possible. The locomotive depots at Belgrade, Nish, and Lapovo have been supplied by the Germans with 100 powerful new locomotives. The line from Belgrade to Mala Krsna is being overhauled and strengthened in order to be able to support a greater weight than ever before. The railway administration in Serbia and the coal supply for the entire traffic of that country are now entirely in German hands.

U.S.A. Railwaymen in the Forces

Some 125,000 workers from the U.S.A. railways have joined the Armed Forces of the United States.

Serbian Goods Rates

An increase of 125 per cent. in goods rates was introduced on the Serbian State Railways as from May 15 last.

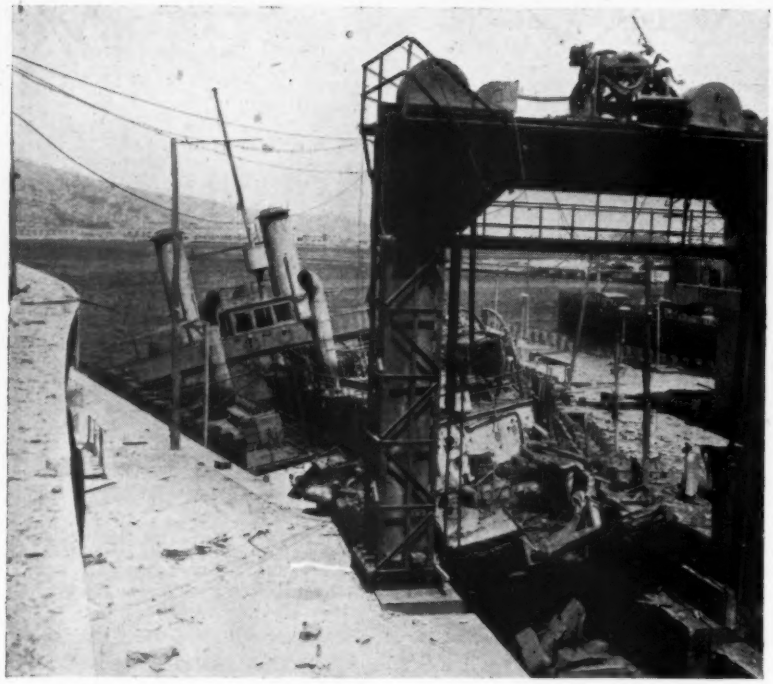
The Mogadiscio Railway

We are officially advised that the railway in Italian Somaliland between Mogadiscio and Villaggio Duca degli Abruzzi has been dismantled by the British Occupation Forces. This railway was described in our issue of May 16, 1941 (page 551), shortly after its capture by British Imperial Forces on February 25 of that year. It was built to the Italian Colonial gauge of 0·95 metres (3 ft. 1⅜ in.); was opened to public traffic in the middle of 1936; and was the only railway in Italian Somaliland.

Mexican Petroleum Industry

Home sales of petroleum products in Mexico have increased substantially in recent years, but exports (although still an important part of the Mexican petroleum industry) have declined. A recently-issued review of the activities of the industry since the nationalisation of 1938, has shown rather surprisingly that production in 1942 was but 32,955,000 barrels, against 41,160,000 in 1941. Difficulties of distribution in wartime, and losses of tankers through the German submarine campaign have tended to restrict Mexican exports to the American continent, and considerably more oil is now dispatched by rail and road, as well as by pipe lines. The total of railway tank cars now in use is 1,410, compared with 771 at the time of nationalisation, five years ago. Petroleos Mexicanos,

Filling in a crater and removing damaged track during an L.N.E.R. liquid blister gas exercise at Woodham Ferrers on July 30. Standard practice accords with official Civil Defence methods, adapted to special railway needs. A small board indicates the "clean path," along which the gang arrives, and another board the "dirty path," along which the party leaves after work, stepping through a tray of bleach powder



Sunken ferryboat at the Messina landing stage of the train ferry between Messina and the mainland of Italy, as found when the Allied Forces entered Messina on August 17; one of the effects of accurate Allied bombing

the official organisation of the Mexican Government, commonly called Pemex, has 530 tank motor lorries at present, compared with 458 in 1938.

Turkish-Slovak Transit Traffic

Preferential through rates are now being applied by the Serbian State Railways to goods in transit between Turkey and Slovakia, and *vice-versa*. The route to be followed in transit is Banatsko Arandjelovo-Belgrade-Bela Palanka. Banatsko Arandjelovo is the Serbian frontier station for Hungary on the Szegedin Pancevo-Belgrade line. The specially-reduced rates are applied only if the volume of goods traffic either way aggregates at least 3,000 metric tons between May 1, 1943, and March 19, 1944; the reduction will be recoverable through a deferred rebate.

West African Air Line

Towards the end of July the air line between Dakar, Senegal, and Brazzaville (French Equatorial Africa) was reopened, after having been suspended since the time of the Franco-German armistice.

New African Airline

A regular air service is now being operated between Kisumu (Kenya) and Diego Suarez (Madagascar). Calls are made at Mombasa, Dar es Salaam, and Lindi. Brief reference to the extension to Madagascar of the sphere of operations of the British Overseas Airways Corporation was made in our March 5 issue, page 249.

International Frontier Station in North Africa

It is reported that the status of the railway station of Colomb-Bechar has been raised to that of an international frontier station, and that the portion of railway between Colomb-Bechar and the frontier to Morocco was internationalised by a decree of March 2, 1943, published in the *Journal Officiel* of Algeria on March 30. Colomb-Bechar is in the southern territories of Algeria just beyond the border of Morocco, and its importance is likely to be increased very substantially with the progress of construction of the Mediterranean-Niger Railway, on which it is located. In addition to being on the main standard-gauge railway system which is in course of extension across the desert to West Africa, Colomb-Bechar is also served by a narrow-gauge railway entirely on Algerian soil, extending from the port of Oran. The station and adjacent lines are now subject to the joint customs administration of Algeria and Morocco, and the status as an international frontier station facilitates the passage in transit of merchandise for other destinations which has been accepted for points outside Algerian or Moroccan territory.

Railway Equipment in U.S.A.

Even greater efficiency in operation must be achieved by the U.S.A. railways, to offset wartime shortages of steel and other essential materials, according to a recent statement of Mr. Joseph B. Eastman, Director of the Office of Defense Transportation. He described the equipment and maintenance situation in the American railway industry as "not too bright." A programme for the replacement of rails during the third quarter of 1943 has had to be reduced substantially because of steel shortages, and no new goods wagons have been authorised for production; in fact, goods vehicles construction will have to be suspended when the present schedules are completed, unless some substantial alteration in the situation occurs by that time.

With regard to motive power, the Requirements Committee, has allocated sufficient material to maintain locomotive production at full-plant capacity. Incidentally, since December, 1941, when America came into the war, U.S.A. production of locomotives has increased 200 per cent. It is expected that, during the third quarter of 1943, U.S.A. railways will receive approximately 258 goods locomotives, and, on the basis of present production, about 307 in the fourth quarter of the year. The locomotives expected to be delivered during the third quarter should include 145 steam locomotives, 27 diesel electric main-line locomotives of 5,400 h.p., 85 diesel shunting engines, and one electric locomotive. Should the estimated deliveries be achieved, the total of new railway transport equipment brought into use during the year 1943 will amount to more than 900 locomotives, and 26,000 goods wagons (including approximately 6,000 which were authorised but not built during 1942).

The Rule of the Road

We have referred on a number of occasions to the anomaly of the difference in the rule of the road in various parts of the world, and to the practice of neighbouring territories often differing. This subject is discussed in the course of an article by Mr. Percy G. Donald on "Transport Facilities and Economic Progress in Colonial Development," published in the September issue of our associate, *The Crown Colonist*. With pedestrian or horse transport, little inconvenience resulted, he remarks, but the advent of the motorcar changed the picture entirely, not only as regards driving, but also in regard to production for the existent and the potential market for cars. The following summary has been compiled from details supplied by the Automobile Association (the returns not being available from Government Trade Reports):—

	Rule of road			
	Foreign countries		British countries	
	Right hand	Left hand	Right hand	Left hand
Population	932,146,000	726,000,000	12,600,000	531,907,000
Cars supplied by U.S.A....	87 per cent.	100 per cent.	100 per cent.	66 per cent.
" " Great Britain ...	13 per cent.	—	—	34 per cent.

The "left hand" figures include China and India; if these be excluded, the figures are comparatively insignificant. Again, continguous countries, with a possibility of much more interchange of traffic after the war, at present have to function under different driving conditions. The following table illustrates the point:—

Right-hand rule			Left-hand rule
Honduras ...	...	...	British Honduras
Belgian Congo	...	...	British Africa
French Africa	...	...	
Egypt ...	...	...	
North Africa	...	...	
Dutch Guiana	...	...	British Guiana
French Guiana	...	...	
Brazil ...	...	...	

Since the outbreak of war, enemy countries have made substantial progress in standardisation, but, despite difficulties resulting from divergent practice, we are not aware of any Allied steps towards unification.

Railway War Work in Kenya

From the outbreak of war in September 1939, to December 31, 1942, the Mechanical and Civil Engineering Departments of the Kenya & Uganda Railways & Harbours shouldered a huge burden of war work, the history of which can now be told. The story begins with the Civil Engineering Department placing sandbags around buildings in Nairobi and digging air-raid trenches, while the Mechanical Engineering Department was designing and building motor ambulances, gun and ammunition lorries, and lorries for the East African Reconnaissance Squadron. The vehicles were designed by the staff of the Chief Mechanical Engineer, and an experimental trench mortar was also constructed. The trench mortar was complete in all details, including the webbing equipment, and proved entirely satisfactory, with the result that in all a further 71 mortars were manufactured. One mortar sight was also manufactured, and, despite a lack of drawings or specifications, proved completely accurate ; subsequently, sights of a simplified design were produced. Other work undertaken during the early part of the war included the manufacture of a large number of Bren gun, Vickers gun, and anti-tank rifle parts, water tanks, anti-aircraft mountings, screw pickets, aiming rests, and practice mortar bombs.

Between the end of March and the end of June, 1940, experimental work in connection with land mines had been completed by the staff of the railways administration, and the Assistant Director of Ordnance Services, and the production of the mines was begun. This necessitated alterations and additions to the workshops, including an extension of the foundry. At the same time, four new third-class coaches were converted for use as ambulance coaches. This involved the removal of all seats and the provision of fixed bunks in two tiers, with a central gangway. It was necessary also to widen the end doors on both sides of the vehicles and to provide double folding doors to facilitate the ingress and egress of stretcher cases. For use with these coaches two covered goods wagons were converted to kitchen cars, and a further two similar wagons to African staff cars. In addition, seven coaches supplied by the Tanganyika Railways & Harbours Administration were equipped to serve as ambulance coaches, and necessary alterations were made to enable them to be run on Kenya & Uganda services.

Twenty-four petrol tanks were constructed, each capable of holding 12,500 gal. In addition, mobile electrical, workshops, and store lorries were designed, and a large number built ; and eighteen armoured cars were constructed and mounted on Ford V-8 chassis. Between September and the end of December, 1940, orders from various units were put in hand, and ranged from lorries for carrying light tanks to leather knee pads and boot-measuring rules. Four 60-pounder guns were overhauled and fitted with pneumatic tyres. The new design was evolved by the staff of the administration, and the requirements of the Director of Technical Services, M.F.F., U.D.F., and permitted of fast travel over rough country. The gun limbers were dealt with similarly.

At the beginning of 1941, arrangements were made for the mass production of anti-tank mines of a different type from those which had been manufactured previously. Other work included the manufacture of anti-aircraft lorries, grenade discharges, gas checks, sand tracks for armoured cars, spring shackles, and pins and bushes for Ford lorries, as well as alterations to a large number of Harmon-Harrington armoured cars. Designs produced in the drawing office of the Chief Mechanical Engineer resulted in the manufacture of a large number of 6-in. bench vices ; the " bodies " for the vices were fabricated from mild steel by means of electric welding, and the screws and nuts were produced from locomotive tyre steel. Other work included the manufacture of combination tools for Bren guns, armoured cars for the Somalia Gendarmerie, further sets of mobile workshops, and lorries for horse and mule transport.

The more important work undertaken during 1942 included the construction of petrol tank wagons, the manufacture of a very large quantity of furniture for the Royal Navy and Royal Naval Air Service, many thousands of spanners and brass belt buckles, and the camouflage painting of numerous armoured cars and lorries. An idea of the magnitude and variety of the work undertaken in the Chief Mechanical Engineer's workshops may be gained from the fact that to December 31, 1942, no fewer than 1,450 separate orders had been dealt with from various Naval, Army, and Air Force Units.

At the outbreak of war, the Kenya & Uganda Railways began a reconnaissance survey for a railway extension beyond the Nanyuki branch towards the Northern Frontier. A year later, at the request of the Military, further surveys were made between railheads and the frontier areas. Instructions were then received for a branch line to be constructed from Thika towards the Northern Frontier. The personnel for a basic organisation was rapidly collected, and a Resident Engineer, Military Works, was appointed. All through the months of January and February, 1941, work on the Thika Branch continued, but in the first week of March, 1941, the work was stopped on account of the speed of the military offensive launched against the Italians, which made the use of the line unnecessary. In three and a half months, 215 miles of survey and 147 miles of staking had been done, and 81 miles of earthwork had been completed, as well as 11½ miles of platelaying. During the period of seven months when the special organisation for urgent military work was operating, a large programme was undertaken which included the construction of depots, sidings, transit sheds, technical services workshops, salvage depot, and roads. Further work included a shed for a vulcanising plant, a compressor house, an armoury drying room, and many other items of major importance. In addition to this vast output of military requirements, the normal work of the railway had greatly increased, of course.

PRIVATE USE OF PETROL IN CEYLON. —The scheme, which was stated in our May 28 issue to be under consideration for a further reduction in the number of private motorcars receiving a basic petrol-ration, has been approved by the Government of Ceylon. Rather over 4,000 motorcar owners recently were served with notice that no petrol would be issued to them, and owners in the " semi-essential " category have had their basic ration reduced.

It is understood that, to offset the difficulties caused by these arrangements, in certain cases hiring licences may be granted to the owners of private cars, and that persons already holding such licences are likely to receive greater facilities.

A new Order prohibits the sale or purchase of private motorcars, and of batteries and used tyres suitable for these vehicles, except by permit.

" Railwaymen's Day " in Russia

The celebration throughout the U.S.S.R. on August 1, of " Railwaymen's Day " took the form mainly of voluntary work to expedite the service of the Russian railways, but it was also the occasion of reviews of the Soviet railwaymen's war effort. A statement issued by Mr. S. I. Bagayev, Deputy People's Commissar for Railways, said that all the enemy's attempts to paralyse or disrupt the Soviet railways had failed completely. Soviet railwaymen had not only ensured the transport of enormous quantities of war supplies, but had also undertaken the tremendous job of evacuating persons and industrial equipment to the hinterland. During the first few months of the war the railways evacuated hundreds of thousands of wagon loads, sometimes over vast distances. In incredibly hard conditions, and often under heavy fire, railwaymen had delivered to the front everything required. The line from the Urals never let Stalingrad down, whatever the conditions. Magnificent work was done by railwaymen restoring the 4,400 miles of track recaptured in the last winter offensive. The Germans did everything possible to destroy or damage track, structures, bridges, etc., in their retreat. All previous records for speed of repairing track were broken by railwaymen in this advance. The Urals and Siberian lines had shown a specially fine performance in the vast quantities of raw materials, fuel, and machinery for war industry which had been carried.

Direct gifts to the Red Army by railwaymen included several dozen armoured trains, and bath, laundry, and disinfection trains. In Moscow, and numerous other railway centres, railwaymen and their families occupied the Sunday which was observed as " Railwaymen's Day " in doing one day's voluntary work in the interests of the war effort. This work covered such tasks as loading and unloading wagons, and repairing tracks. In one district of Moscow some 10,000 volunteers presented themselves; 70,000 persons, including 28,000 Cheliabinsk factory workers, gave their service to the South Urals Railway; and a considerable quantity of voluntary work was effected in railway workshops, where rolling stock was repaired for use in liberated areas.

A preparation conference convened by the Moscow Regional and City Communist Party Committees for railwaymen of the capital, which took place a week earlier, was attended by stationmasters, chiefs of departments and depots, repair-shop managers, and rank-and-file railwaymen. A statement on the work of the railways in the first half of the year and preparations for the winter period was made by the Assistant People's Commissar for Railways, who stressed the importance of being ready for the winter period, of setting aside sufficient spare parts to obviate demands on central supplies, of developing fuel economy, and of building up coal reserves in all depots. An engine-driver, speaking in the discussion, told of how his team, which had run 113 heavy trains in one month, had saved more than 600 tons of coal. In conclusion, one of the secretaries of the Moscow C.P. Committee, emphasised that now was not the time to celebrate past successes, but to look soberly at the work before them. The conference issued an appeal to all Moscow railwaymen to see to it that the third winter of war, as regarded work on the railways, should go smoothly.

C.N.R. Post-War Employment Schemes

A MEMORANDUM dealing with the provision of employment after the war by the Canadian National Railways, drawn up by Mr. S. W. Fairweather, Vice-President (Research & Development) of the system, was presented recently to the Special Committee on Reconstruction & Re-establishment of the Canadian House of Commons. In the course of his speech before the committee, introducing the memorandum, Mr. R. C. Vaughan, Chairman & President, C.N.R., said that the company was the largest single industry and employer in Canada; its staff in the Dominion numbered (in May, 1943) some 93,000. In addition, it was the largest buyer of materials, so that many thousands depended on it for employment indirectly.

Mr. Vaughan said that the C.N.R. would like to be in a position to give maximum employment, but that the shareholders, who were the people of Canada, naturally expected affairs to be managed with prudence and economy, which meant that expenses must be regulated in accordance with earnings. He thought that some people gave little consideration to the facts that many lines in sparsely-settled districts, although important for development, had to be operated unprofitably; that the products of the farm, mine, and factory were handled at a lower average rate a ton-mile than in any other country (Japan, possibly, excepted); and that no country had the same difficult climatic conditions in which to operate.

He did not have to remind the committee that no nation suffering abnormal unemployment could be prosperous; therefore, it was the responsibility of every employer to consider the post-war period in that light. Accordingly, some time ago, he had asked Mr. Fairweather to prepare, under his direction, a report on the subject. A large railway never was "finished"; constant expenditure on improvement and maintenance was required. The memorandum to be submitted contained information as to expenditure which might be effected if post-war conditions should necessitate it, as an indication of the employment which might be provided on useful works if it should be necessary for the Government to appropriate public money to prevent unemployment. He wished it to be clear that the figures were presented on that basis: many of the capital expenditures mentioned were such as could not be advocated solely to protect the railway's operating position or its normal development.

Post-War Prospects

Mr. S. W. Fairweather, Vice-President (Research & Development), C.N.R., presenting the memorandum, said it had been made clear, as the result of war conditions, that railways were far from being outmoded, and were practical and economical for handling large volumes of traffic.

Employment could be considered most conveniently in any general plan in the light of the national income, of which it formed the basis. A slump need not necessarily occur immediately after the war; in fact, industrial activity probably would increase, due to the latent purchasing power and the demand for both producer and consumer goods. It seemed logical, therefore, to relate consideration of post-war activities to approximately the present national income (see editorial note on page 221).

On demobilisation, the C.N.R. would have first to reabsorb the 12,000 employees now in the Armed Forces; and it might be possible directly to employ a further number of ex-Service men. Again, employment would be afforded by the necessity, as soon as materials were available, for carrying out deferred maintenance. Mr. Fairweather here added the warning that, if the present volume of traffic was to be maintained, more labour and materials must be provided: rails, structural timber, goods-wagon equipment, and locomotives particularly were needed. Continuing, he suggested that, if, after the war, new works became necessary to provide employment, an extensive programme of worth-while projects might be considered. The relief of unemployment by capital works, he said, extended beyond the direct employment afforded and the labour directly engaged in supplying materials. Money distributed in wages in such conditions increased the national income by more than the amount of the former, because the wage-earner in turn exchanged his money for goods and services.

A matter which bore distinctly on the railway's financial position, and so on its ability to carry out capital works, was road competition. The basis of competition should be adjusted so that both could prosper, yet the economic advantage of each be secured for the country.

Programme of Works

In putting forward a suggested programme of works to increase employment, Mr. Fairweather explained that many reservations must accompany it, and added that the policy of the C.N.R. for many years had been to undertake only those capital works which clearly could be shown to be remunerative, or were unavoidable. The programme now submitted exceeded this scope, because few of the projects could be considered self-liquidating.

The tentative programme of works is divided into four groups: (1) those which would expand the company's field of operations; (2) those which would produce economy to such an extent as to be self-liquidating; (3) those generally desirable, but marginal in character; and (4) those which, although having desirable features, would not effect sufficient economy to pay interest on the capital.

In respect of the second group, Mr. Fairweather found a clear case for the railway bearing the full cost; for the others, he considered, assistance would be in order. For example, pioneering railways generally resulted in losses, although the country benefited. Again, the third and fourth groups might have elements advantageous to the country, such as the elimination of grade crossings, which added little to net-earning capacity. It was suggested that the first group would require $59,500,000 and afford 8,800,000 man-days of work; the second, $206,773,000, and 30,800,000 man-days; the third, $270,482,000, and 40,200,000 man-days; and the fourth, $103,537,000, and 15,500,000 man-days: a total expenditure of $640,292,000, estimated to provide 93,900,000 man-days.

In conclusion, he stated that the C.N.R. could not know how far an extension of railway facilities might be desirable. Immigration policy, and monetary conditions affecting international trade, were factors to be considered. There was believed to be room for considerable main- and branch-line construction to tap the mineral, forest, and agricultural wealth of the Dominion.

Staff and Labour Matters

Railway Electrical Staff

The claim submitted by the trade unions for an all-round increase in the wages of railway electrical staff has been settled at a meeting of the National Railway Electrical Council by bringing that section of staff into line with the rest of the railway staff as to the amount of war advancement. Hitherto the staff employed in railway electricity generating stations and sub-stations had their wages regulated by a cost-of-living sliding scale. Under these arrangements the wages were reviewed each quarter and for each rise or fall of six points in the cost-of-living index figure, as published by the Ministry of Labour, an increase or decrease of 2s. a week in wages was made during the ensuing three months or until such time as the cost-of-living index figure has varied to such an extent as to make a further change in wages necessary. This cost-of-living sliding scale has been suspended and the special war advance of 20s. 6d. a week takes its place. Before the war, the wages of the railway conciliation staff also were regulated by a cost-of-living sliding scale which was suspended by agreement between the Railway Executive Committee and the trade unions when the first war advance of 4s. was granted as from January 1, 1940. The alteration in the rates of pay of the electrical staff takes effect as from July 5, 1943. Below are given the new composite rates; the first column relates to London; the second to Glasgow, Liverpool, and Manchester, and the third to other places.

Grade	London	Glasgow, etc.	Other places
	s. d.	s. d.	s. d.
Operating Staff			
Power House			
Electrician-in-charge or switchboard attendant :			
5,000 k.w. and over ...	108 0	102 0	98 0
Under 5,000 k.w. ...	94 0	91 0	88 0
Assistant switchboard attendant :—			
5,000 k.w. and over ...	86 0	81 6	80 6
Under 5,000 k.w. ...	81 0	78 6	76 6
Fitter, driver, or turbine mechanic	92 6	89 6	87 6
Driver	87 6	83 6	82 0
Assistant driver	85 0	80 0	79 0
Turbine attendant ...	85 0	80 0	79 0
Pump attendant	85 0	80 0	79 0
Water-softening plant attendant	85 0	80 0	79 0
Greaser	81 0	79 0	77 0
Auxiliary-plant attendant	81 0	79 0	77 0
Boiler House			
Leading stoker	90 6	87 6	84 6
Stoker	86 0	81 0	80 0
Trimmer	81 0	79 0	77 0
Sub-station			
Rotary sub-station attendant :—			
6,000 k.w. or over ...	110 6	104 6	100 6
3,000 k.w. or under 6,000	108 0	102 0	98 0
1,000 k.w. or under 3,000	94 0	91 0	88 0
Under 1,000 k.w. ...	86 0	81 6	80 6
Asst. rotary sub-station attendant :—			
3,000 k.w. or over ...	86 0	81 6	80 6
Under 3,000 k.w. ...	81 0	78 6	76 6
Static sub-station attendant :—			
2,000 k.w. or over ...	90 0	86 0	83 0
Under 2,000 k.w. ...	86 0	81 6	80 6
Maintenance Staff			
Mains foreman	107 11	100 11	96 11
Plumber jointer	97 11	95 5	91 5
Meter repairer	93 5	90 5	87 5
Electrical fitter	90 5	87 5	85 5
Armature winder ...	90 5	87 5	85 5
Battery fitter	90 5	87 5	85 5
Meter inspector and tester	90 5	87 5	85 5
Jointer working with a mate	87 5	82 5	80 11
Battery attendant ...	85 5	80 11	79 5
Meter fixer	81 5	79 5	76 11
Boiler cleaner	81 5	79 5	76 11
Ash hopperman and ash conveyorman	81 5	79 5	76 11
Coal handlingman ...	80 5	76 11	75 11
Jointer's mate	80 5	76 11	75 11
Electrician's mate ...	79 5	76 11	75 11
Cleaner	76 11	73 11	71 11

Argentine and Chilean Transport Agreement

According to a Reuters report Admiral Storni, the Argentine Foreign Minister, and Señor Fernandez, the Chilean Foreign Minister, on August 25 signed a convention providing for the construction of railways and roads across the Andes. Under this agreement Argentina has undertaken to hasten the construction of the line from Salta to Antofagasta, the second most important port in Chile. Some details of this railway, which was first proposed in 1898, were given in our issue of January 22, when it was stated that progress was being made with this line. The distance along the route to be followed is some 562 miles, of which 205 miles are in Chile and 357 miles in Argentina. The route uses the line of the Antofagasta (Chili) & Bolivia Railway Co. Ltd. from Antofagasta as far as Agusta Victoria. Beyond the terminus of this branch at Agustar Victoria, the rails are already laid for approximately 90 km. (56 miles) to a point about 11 miles from Imilac station, and the formation has been completed to within 19 miles of the border between Chile and Argentina. The border is to be crossed at the Socompa Pass, 12,600 ft. above sea level. There are still 52 miles to be laid on the Chilean side. The construction of this section is expected to cost about $1,300,000.

From Salta there are about 190 miles of railway already completed and in service. The railway uses the existing line from Salta to San Antonio de los Cobres, and the new construction extends to the town of Positos, leaving 158 miles of the Argentine section still uncompleted. In November, 1942, some 3,000 men were said to be working on the 30-mile stretch just beyond Positos.

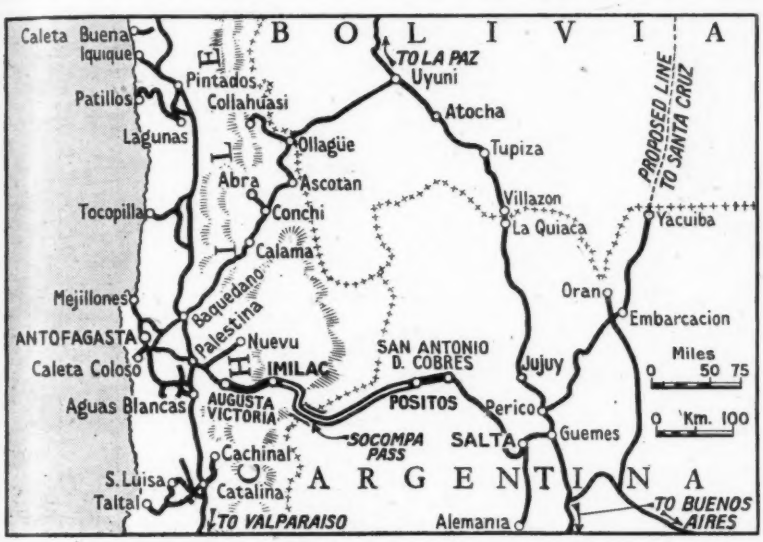
Among the many engineering difficulties of the 190 miles between Salta and Positos are stated to be 30 bridges, 20 tunnels, and 15 trestles or viaducts. One of these, the Polvorilla viaduct, is built on a curve 722 ft. long and 207 ft. above the valley.

The line of the Antofagasta (Chili) & Bolivia Railway from Antofagasta to Agusta Victoria is of metre gauge, and the extension to the frontier at the Socompa Pass will be of the same gauge. Salta is on the metre-gauge system of the Argentine State Railways. The new line will thus be a transcontinental railway through Argentina and Chile without a break of gauge.

Under the new agreement, Argentina has undertaken also to reconstruct the Argentine end of the Transandine Railway.

Next year a survey is to commence for a line from Zapala, western extremity of the Buenos Ayres Great Southern Railway, to Longquimay, some 90 miles further westward. It has been agreed to construct, within three years, two roads over the Andes, one between Mendoza and Los Cuevas, and another between Los Andes to Caracoles. A preliminary survey is to be made in connection with a tunnel to link these two roads.

A mixed Argentine and Chilean commission to study and suggest the basis for a customs union between the two countries is to be appointed by September 25. Free transit through the respective countries of merchandise and produce destined for any third country is included in the agreement.



Sketch map showing the relationship to the railway systems of Chile and Argentina of the projected line to link Imilac, in the former country, with Positos, in the latter, construction of which is to be hastened under the new convention

A PAPER-SAVING ACHIEVEMENT.—A reduction in paper consumption of 75 per cent. has been achieved by Lever Bros. & Unilever Ltd. at Unilever House as a result of progressive paper economies which began with the outbreak of the war. As an example, a loading schedule has been reduced to one-fifth its pre-war size without sacrificing any of the contents. This has been done by cutting out unnecessary wording, reducing the size of print, and devising a more economical layout. An average of 52 tons of paper a quarter is being released for salvage by the methodical and regular clearance of out-of-date files, and by applying the principle that no stationery should be retained which cannot be used at present.

Hop-Picking Season Begins

The 150th hop-picking season has commenced, and once again the Southern Railway is putting into operation its arrangements to run many special trains for the thousands of pickers to Kent. Early in August the Southern Railway headquarters sends detailed instructions to all the farmers concerned. About the same time the Railway Hop Control Office under the ægis of the London East Divisional Headquarters is set up in Maidstone, and this acts as the liaison between Kent farmers and the railway company. Each farmer is sent an "advice card" on which is set out details for the guidance of the pickers. As soon as the farmer decides the date that picking shall commence he inserts this on the card and forwards it to the Control Office. Here the train times are added and the card sent to the individual pickers.

About a week before these "Advice Card" trains are expected to run a Railway Operating Control is set up at Paddock Wood so that the running of trains and provision of stock can be dealt with on the spot. These trains are once again leaving London between the hours of 6 a.m. and 1.30 p.m. and not as in peacetime days from 2 a.m. Tonbridge, Paddock Wood, Yalding, Wateringbury, East Farleigh, Marden, Staplehurst, Headcorn, Horsmonden, Goudhurst, Cranbrook, and Hawkhurst Stations are all receiving their thousands of hop-pickers as they have for many years.

In 1942 the Southern Railway ran 250 special trains to and from the hop gardens conveying 132,000 passengers, and 55,000 pockets of hops representing nearly 4,500 tons also travelled by rail.

For the third year the Hop Marketing Board is paying the railway fares of most of the pickers, as many of them have evacuated their London homes. After about a fortnight when the picking comes to a finish operations will be put in hand for returning all the hop-pickers to London and beyond.

Swiss Federal Railways Library

Twenty years ago the Swiss Federal Railways established a library under the direction of Herr E. Mathys (who now has two assistants), with the object of helping the staff to obtain a knowledge of every aspect of railway engineering, operation, and economics. The collection has been increased year by year until it comprises 7,500 books, 3,000 pamphlets and booklets, and 22,000 volumes of periodicals, official reports, and statistics. Last year it was used by 3,000 members of the railway staff and 500 other persons; about 12,000 items were issued on loan.

Until the outbreak of war the library received about 300 periodicals. It is the practice to circulate literature of this type to certain departments and offices: any reader who does not find the normal time-allowance sufficient for the study of an article indicates on a label his wish to have the journal concerned sent to him a second time. Special attention has been given to the making of a complete card-index of all but the most insignificant items in the periodicals, enabling the articles therein to be turned up rapidly, and the trouble of searching through the yearly or half-yearly indexes in the volumes to be avoided. About a quarter-of-a-million cards so far have been prepared.

Notes and News

L.M.S.R. Fund for New Stalingrad Hospital.—A Stalingrad Hospital Fund committee, formed at L.M.S.R. Headquarters, has raised the sum of £280 for endowing a bed in the new hospital in question.

Premier Motor Services (Scunthorpe) Limited.—The name of this company will, unless cause is shown to the contrary, be struck off the register, and the company dissolved, at the expiration of three months from August 20, 1943. The services previously operated by this undertaking are now provided by the Enterprise & Silver Dawn Motors Limited.

Road Accidents in July, 1943.—The return issued by the Ministry of War Transport of the number of persons reported to have died, or to have been injured, as a result of road accidents in Great Britain during the month of July last shows 384 deaths (compared with 465 in July, 1942), 2,518 seriously injured (compared with 2,791 in July, 1942), and 6,984 slightly injured (compared with 8,044 in July, 1942).

Metropolitan Assented Stock.—Glyn, Mills & Co., the trustee and registrar, announces that the funds in its hands available from the recent payment on account of interest on the underlying London Passenger Transport Board "C" stock are not considered sufficient to justify an interim payment on the Metropolitan Assented Stock for the year to December 31, 1943, and will be carried forward towards the payment of the interest for the year ending on that date which falls due not later than May, 1944.

Concession Fares on Perth Tramways.—The Government of Western Australia has approved the introduction of concession fares to members of the Defence Services, and auxiliaries thereof, when travelling in uniform on trams, trolleybuses, or buses operated by the Government Tramways in the Perth Metropolitan and Suburban Areas, as follow: (i) for travel on 3d. and 4d. sections—2d.; (ii) for travel on sections 5d. and over—3d. In announcing the concession, the Prime Minister (the Hon. J. C. Willcock) said that it was the desire of the Government to assist members of the Armed Forces to travel as cheaply as possible, and that, although uniformity did not exist throughout the various Australian States, the concessions granted would be in keeping with the privileges granted in other capitals.

Post Office Receipts.—According to the *Board of Trade Journal*, the average daily receipts of the Post Office in June were £220,653, or 19·5 per cent. more than in that month a year ago.

Brive-Montauban Electrification.—It is stated that electrification of the Brive-Montauban line, French National Railways, is expected to result in a saving of some 60,000 *tonnes* of coal a year. As stated in our May 21 and August 20 issues, the conversion of this line is expected to have been completed by the end of 1943.

Increased Railway Receipts in Argentina.—Figures compiled by the National Railway Board and issued by the Ministry of Public Works show that the gross receipts of all the privately-owned Argentine railways during the financial year 1942-43 amounted to 204,436,830 pesos (£12,266,200). An analysis of the returns shows that all the companies, with the exception of the Bahia Blanca & North Western Railway Co. Ltd. (operated by the B.A.G.S.R.) registered increases.

Rhodesia Railways Limited.—Gross revenue for the year ended September 30, 1942, amounted to £6,002,993, an increase of £272,315 in comparison with the year to September 30, 1941. Working expenditure, including provision for depreciation and renewals, advanced from £3,204,781 to £3,446,333, and the surplus of gross revenue over working expenditure was £30,763 higher, at £2,556,660. Operating ratio was 57·4 per cent., against 55·9 per cent. After providing for all charges, including debenture stock service, there was a profit for the year under review of £398,680, compared with £854,570 in the previous year. The difference in profit is chiefly due to the fact that provision for income tax and E.P.T. required £1,544,775, against £1,031,368 in the previous year. Out of the profit of £398,680, the appropriations are £125,000 to dividend account and £273,680 to rates stabilisation account. The ordinary capital again receives a dividend of 25 per cent., less tax at 5s. 7·68d. in the £.

Passengers as Bus Drivers.—The sensation of bus driving in the blackout is to be offered to visitors to the Safety Training Exhibition which Mr. P. J. Noel-Baker, Joint Parliamentary Secretary, Ministry of War Transport, is to open at the Dorland Hall on September 3. The Tilling group of companies is setting up a section of blacked-out road with the windscreen of a bus at one end. The visitor stands behind the windscreen with head lamps showing just as much of the road as they do on a

Mr. T. E. Thomas, General Manager (Operation), and Mr. A. J. Webb, Outdoor Superintendent, L.P.T.B., with officials of the board, inspecting the garden at Ladbroke Grove Station, which secured first prize for the best station garden on the Metropolitan Line in the London Transport Station Gardens Competition

British and Irish Railway Stocks and Shares

Stocks	Highest 1942	Lowest 1942	Prices Aug. 27, 1943	Prices Rise/Fall
G.W.R.				
Cons. Ord.	58	39	61	– ½
5% Con. Pref. ...	115½	105½	111	– ½
5% Red. Pref. (1950)	109½	103½	107	–
5% Rt. Charge ...	133½	123½	126½	–
5% Cons. Guar. ...	130¼	121½	122½	– 1
4½% Deb.	117	105	108½	– ½
4½% Deb.	118	108	110½	–
4½% Deb.	125	113	118½	–
5% Deb.	137	127	129½	–
2½% Deb.	77	70	75	– ½
L.M.S.R.				
Ord.	28½	16½	32½	–
4% Pref. (1923) ...	63½	50½	61½	– ½
4% Pref.	76½	67½	75	–
5% Red. Pref. (1955)	103½	94½	103½	–
4½% Guar.	104½	97½	100	–
4½% Deb.	108½	101½	104½	–
5% Red. Deb. (1952)	111	107½	109½	
L.N.E.R.				
5% Pref. Ord. ...	9½	2½	9½	+ ½
Def. Ord.	5	1½	4½	–
4% First. Pref. ...	62	49½	61½	– ½
4½% Second Pref. ...	32½	18½	32½	– ½
5% Red. Pref. (1955)	95½	79	97½	+ 1
4½% First Guar. ...	98	88	96½	– ½
4½% Second Guar. ...	90	78	89½	– ½
3% Deb.	85	76	80½	–
4½% Deb.	106½	100½	102½	– ½
5% Red. Deb. (1947)	106	103	104	–
4½% Sinking Fund Red. Deb.	106	102½	105½	–
SOUTHERN				
Pref. Ord.	77	61½	76	– 1½
Def. Ord.	23½	14½	24½	– ½
5% Pref.	112½	104	110	– ½
5% Red. Pref. (1964)	110½	105½	111½	– 1
5% Guar. Pref. ...	131	121½	123½	–
5% Red. Guar. Pref. (1957)	115½	109½	112½	–
4½% Deb.	116	104½	107½	– ½
5% Deb.	134	125½	129½	–
4% Red. Deb. (1962–67)	110½	106	107½	–
4% Red. Deb. (1970–80)	111	106½	107½	–
FORTH BRIDGE				
4% Deb.	109 3/16	108	106	–
4% Guar.	105½	100	104½	–
L.P.T.B.				
4½% "A"	122½	111	117½	–
5% "A"	131½	122	127½	–
3% Guar. (1967–72)	95½	97½	98½	– ½
5% "B"	121	111½	115½	–
"C"	56½	38	67	– 1
MERSEY				
Ord.	27½	20½	32	–
3% Perp. Pref. ...	61½	56½	61	–
4% Perp. Deb. ...	102½	99½	103	–
3% Perp. Deb. ...	80½	76	78	–
IRELAND				
BELFAST & C.D.				
Ord.	9	4	9	–
G. NORTHERN				
Ord.	29½	12½	19	–
G. SOUTHERN				
Ord.	25	10	15½	+ 5½
Pref.	29	12½	19½	+ 3
Guar.	53	35½	37	+ 3
Deb.	71½	55½	59½	–

§ ex-dividend

moonless night. Away to the left beside a bus stop is a dim figure holding two torches which can be operated by the visitor; one shines, correctly, on the road, the other points on the driver a blinding light which might well send a bus swerving into the kerb. The originals of the complete range of Fougasse posters, old and new, will be on view.

Southern Railway Flag-Day Collection.—As a result of the recent flag-day collection held at all Southern Railway stations and depots in aid of the Railway Benevolent Institution, a cheque for £5,430 has been handed to the President of the institution, Sir Murrough Wilson, by Mr. E. J. Missenden, General Manager of the Southern Railway. This sum represents the largest flag-day collection ever secured by a railway company.

Goods Traffic in France.—The decrease in the tonnage of goods handled by the French railways, which has been taking place since 1940 (see our issue of May 14 last, page 474), continued during the early months of this year. The daily averages of wagon loadings on the French National Railways in January, February, and March, compared with 1942, were as follow :—

Daily Average of Wagon Loadings—

	1943	1942
January	22,074	25,021
February	22,983	24,678
March	21,686	25,074

South African Post-War Transport.—Mr. F. C. Sturrock, Minister of Transport for the Union of South Africa, on August 24, according to a Reuter message from Johannesburg, said that airways would play an increasing part in high-speed passenger traffic after the war. He foreshadowed the construction, on the reef, of an international airport, and said that the railway administration intended to restore and improve the Blue Train service of special luxurious high-speed trains between Capetown and Pretoria. Plans included also the building of a large hotel at Pretoria.

Gloucester Railway Carriage & Wagon Co. Ltd.—Trading profit for the year ended May 31, 1943, was £153,583 (£159,316), and investment and other income amounted to £8,878 (£8,553). Net profit, after making provision for depreciation (£25,583), war damage insurance (£3,152), fees, wagon rent, and debenture interest, is £115,686, against £120,661. Adding £15,367 brought forward makes £131,053. Deducting £79,000, against £85,000, for taxation and deferred repairs leaves £52,053. The dividend for the year is again 7½ per cent., less tax, requiring £19,687. Reserve again gets £10,000 and superannuation fund £5,000, and £17,366 is carried forward.

Argentine Cereal Traffic and Stocks.—According to figures issued by the Argentine Ministry of Agriculture, the aggregate cereal traffic handled by the Argentine railways during 1942 amounted to 6,779,573 tons made up as follows : wheat, 3,378,675 tons ; linseed, 759,935 tons ; maize, 2,216,446 tons ; oats, 167,457 tons ; barley, 226,430 tons ; rye, 25,471 tons ; and birdseed, 5,159 tons. The total represents a reduction of approximately 1,759,000 tons compared with 1941, due mainly to the fall in exports. To this must be added the fact that considerable stocks, especially of maize, were held at the principal producing centres during 1942, and these only started to move during the first months of 1943. The report of the National Grain & Elevators Board states that the existing stock of cereals on July 1 was as follows : wheat, 7,395,041 tons ; linseed, 1,792,550 tons ; maize, 1,280,982 tons ; oats, 79,285 tons ; barley, 59,086 tons ; rye, 35,734 tons ; sunflower seed, 190,092 tons ; birdseed, 6,595 tons.

The Buenos Ayres Western Railway Limited.—The directors, with the concurrence of the stockholders' committee, have resolved that a payment of one half year's arrears of interest to June 30, 1943, less tax, be made on October 5, on the 4 per cent. and 5 per cent. debenture stocks of the company.

Port Pirie-Broken Hill Line.—At a recent press conference the Prime Minister of Australia (Mr. Curtin) said that he favoured the early conversion from the 3-ft. 6 in. gauge to that of 4 ft. 8½ in. of the line from Port Pirie, South Australia, to Broken Hill, New South Wales. The cost of the work would be £10,000,000, and 1,000 men would be required from the Civil Construction Corps.

North Central Wagon Co. Ltd.—Net revenue for the year ended June 30 last from rents and other profits, after providing for administration expenses, depreciation, etc., amounted to £79,000 (£69,165) and income from investments was £13,863 (same). After debenture interest, directors' fees, and a tax provision of £38,611 (£32,600), the balance of profit for the year is £21,208 (£18,422). Adding £18,126 brought forward makes a total available of £92,863 (£83,028). Preference dividend, less tax, again takes £8,125, and the dividend on the paid-up ordinary capital of £225,000 is maintained at 7½ per cent., less tax. Deducting £200 for directors' additional remuneration leaves £22,572 to be carried forward.

Transport Restrictions Still Necessary.—Mr. P. J. Noel-Baker, Parliamentary Secretary to the Ministry of War Transport, speaking at Derby recently, said that victory abroad did not reduce the demands on transport here; on the contrary, it increased them. To North Africa and Sicily we had to send from this country a constant stream of military and civilian supplies, in addition to the large tonnage needed for the greater battles that lay ahead. As to whether we now had more petrol and rubber, it would be foolish to deny that the prospects were much brighter than they were. But neither on rubber nor on oil could we take any risks this year. Even if we had all the oil and rubber in the world, there was still the shortage of manpower. Mr. Noel-Baker also made an appeal that in all factories, shops, and offices working hours should be staggered in the coming winter.

Hurst, Nelson & Co. Ltd.—The directors recommend an ordinary dividend of 12½ per cent. less tax for the year to July last, the same as for the previous year. After providing £1,627 (£2,798) for war damage insurance and £2,250 (£2,500) for deferred repairs, net profits were £32,344 (£31,462).

Signal School Lectures.—The winter series of lectures to the staff of the London Transport Signal Department began on Monday last, August 30. The courses provide instruction in all aspects of the board's signal practice, and include lectures on telephony, low tension cable work and lighting. There is also a special series of lectures for power signal linemen. The series of lectures will conclude on October 25.

Railway Mailbag Thefts Alleged.—Very extensive mailbag robberies on night trains over a long period were alleged by the prosecution to have been carried out by four men who came up for trial at Birmingham on August 25 on a charge of conspiracy to steal and stealing. Two of the men were said to have been equipped with keys for all the railways by having a lock taken off a corridor door and having keys made. Several sections of the L.M.S.R. were alleged to have been " worked," and bags of wages to have been taken one evening on the G.W.R.

Government Participation in Danish Air Transport.—The increase of the share capital of Det Danske Luftfartselskabet (D.D.L.), the Danish national air transport company, from Danish Kroner 3,000,000 to Kroner 15,000,000 has been effected. The share of the Danish state in the new capital amounts to Kroner 2,640,000 or 17½ per cent. Other participants are the municipalities of Copenhagen, Aalborg, and Esbjerg, and their combined participation totals Kroner 570,000. King Christian is also said to be among the new subscribers. Shipping, industrial, banking, and trading concerns took over the bulk of the balance.

Mr. E. J. Missenden, General Manager, Southern Railway, presenting to Sir Murrough Wilson, as President of the Railway Benevolent Institution, the cheque for £5,430 collected by Southern Railway staff. (*See paragraph above*)

Railway Stock Market

Business in the stock and share markets again has been on only a moderate scale, and in most sections values were slightly reactionary, pending improvement in demand. Sentiment reflected an attitude of caution, despite the encouraging trend of the war news, and the prevailing disposition has been to await the next big offensive operation of the United Nations. Confidence, and general willingness to be prepared to take more than a very short view, however, were indicated by the fact that selling was again only moderate; in many directions stocks and shares remained in small supply because of the firmness with which they are held. The general belief is that over a period the trend in values so far as concerns equity securities of all kinds is likely to be to higher levels, bearing in mind the pressure of money seeking an outlet, despite the fact that in many directions yields at current prices are very small on the basis of last year's dividends.

Home rails have again shown a tendency to move very closely with the surrounding trend of markets, and due to absence of improvement in demand, most of the junior stocks recorded small declines on balance. Moreover, prior charges had a less firm appearance; although yields compare very favourably with those on other front-rank investment securities, they are influenced in price mainly by the tendency in gilt-edged stocks. Home railway junior stocks are affected at the present time more by uncertainty as to the post-war position than by considerations of the excellent current yields. Nevertheless, the post-war outlook of the railways is probably no more uncertain than that of numerous industrial companies whose shares have risen strongly in recent months on hopeful assumptions as to the position after the war. Taking the most pessimistic view, it would seem that even in the event of nationalisation the railways could not be capitalised on a lower rental basis than the current amount of £43 millions a year. Although at the present time it seems that home railway junior stocks are unlikely to move strongly against the prevailing market trend, more hopeful views as to the post-war outlook may very well gain ground as time proceeds, and this combined with the factor of generous yields, may make for appreciation in prices. In fact, a good case can apparently be made out for the assumption that no other group of equity securities gives as good a combination of attractions of generous yields and scope for satisfactory capital appreciation as time goes on.

Although Argentine railway securities derived some benefit from the announcement that arrears of interest on B.A. Western 4 per cent. and 5 per cent. debentures are to be cleared on October 5 next, values were mostly lower on balance. Sentiment has been inclined to come more under the influence of a disposition to await results for the financial year ended June 30. Nevertheless, debentures of the B.A. Gt. Southern, B.A. Western and B.A. & Pacific companies remained held firmly; it is recognised that yields at current prices are attractive.

Compared with a week ago, Great Western ordinary has moved back further from 61½ to 61 at the time of writing; the guaranteed stock was fractionally lower at 122½. On the other hand, Great Western 5 per cent. preference kept at 111, and the 4 per cent. debentures at 108½. In accordance with the general tendency in junior stocks, L.M.S.R. ordinary eased from 32⅜ to 32¼, and the 1923 preference from 61½ to 61; the senior preference was maintained at 75 and the guaranteed stock at 99½. L.N.E.R. first preference was 60¾, compared with 61¼ a week ago, and the second preference 32⅜, compared with 32⅞; the first guaranteed declined half-a-point to 96½. Southern deferred was slightly lower at 24¼; the preferred moved back from 76½ to 76. There was a further reaction from 67½ to 66 in London Transport "C."

Argentine railway securities lost recent gains in most cases. The undertone in those of B.A. Western was good, however, and the ordinary stock tended to improve. Elsewhere, United of Havana debentures held their recent improvement. French railway sterling bonds were subject to profit-taking. Canadian Pacific Railway stocks were slightly lower on balance.

Traffic Table and Stock Prices of Overseas and Foreign Railways

	Railways	Miles open	Week ending	Traffic for week: Total this year	Traffic for week: Inc. or dec. compared with 1941/2	No. of Weeks	Aggregate traffics to date: Totals 1942/3	Aggregate traffics to date: Totals 1941/2	Aggregate traffics to date: Increase or decrease	Shares or stock	Prices: Highest 1942	Prices: Lowest 1942	Prices: Aug 27, 1943	Yield % (See Note)
				£	£		£	£	£					
South & Central America	Antofagasta (Chili) & Bolivia	834	22.8.43	33,090	+ 5,170	33	938,490	722,920	+ 215,570	Ord. Stk.	14	7⅜	14½	Nil
	Argentine North Eastern ...	753	21.8.43	14,496	— 138	8	103,620	103,962	— 342	,,	6¼	3	7	Nil
	Bolivar	174	July, 1943	4,991	+ 1,021	31	37,405	31,401	+ 6,004	6 p.c. Deb.	19⅜	10	20½	Nil
	Brazil	—	—	—	—	—	—	—	—	Bonds	20½	9	20	Nil
	Buenos Ayres & Pacific ...	2,807	21.8.43	76,920	— 6,000	8	586,920	636,240	— 49,320	Ord. Stk.	7½	4	6½	Nil
	Buenos Ayres Great Southern	5,080	21.8.43	143,460	+ 15,660	8	1,010,220	945,660	+ 64,560	Ord. Stk.	12⅛	7½	13¼	Nil
	Buenos Ayres Western ...	1,930	21.8.43	44,820	— 1,800	8	339,240	360,900	— 21,660	,,	12⅜	6	12¼	Nil
	Central Argentine	3,700	21.8.43	130,530	+ 6,870	8	899,970	924,702	— 24,732	,,	9½	4 1/16	9¼	Nil
	Do.	—	—	—	—	—	—	—	—	Ofd.	3½	2½	4	Nil
	Cent. Uruguay of M. Video...	972	21.8.43	27,836	+ 8,178	8	221,400	154,592	+ 66,808	Ord. Stk.	8	4	5½	Nil
	Costa Rica	262	July, 1943	23,251	+ 10,490	4	23,251	12,761	+ 10,490	Stk.	16½	11	14	Nil
	Dorada	70	July, 1943	26,425	+ 9,165	28	146,917	98,475	+ 48,442	1 Mt. Db.	90½	89	94½	6⅓
	Entre Rios	808	21.8.43	18,966	+ 1,308	8	141,828	130,544	+ 11,274	Ord. Stk.	33	4½	7	Nil
	Great Western of Brazil ...	1,030	21.8.43	16,300	+ 6,900	33	515,300	334,600	+ 180,700	Ord. Sh.	9/-	9/-	40/-	Nil
	International of Cl. Amer. ...	794	June, 1943	$591,995	+ $62,010	24	$3,904,639	$3,689,137	+ $215,502	,,	—	—	—	—
	Interoceanic of Mexico ...	—	—	—	—	—	—	—	—	1st Pref.	1½	5/3	1¼	Nil
	La Guaira & Caracas... ...	22¾	July, 1943	7,550	+ 600	30	61,140	44,940	+ 16,200	5 p.c. Deb.	11½	5	85⅝	Nil
	Leopoldina	1,918	21.8.43	35,837	+ 6,128	33	1,127,998	1,002,597	+ 125,401	Ord. Stk.	6¾	3½	5¼	Nil
	Mexican	483	21.8.43	ps. 369,900	+ ps. 85,100	7	ps.2,914,800	ps. 2,276,200	+ ps. 638,600	Ord. Stk.	1	⅛	1¼	Nil
	Midland Uruguay	319	June, 1943	15,163	+ 300	32	184,706	167,328	+ 17,378	,,	—	—	—	—
	Nitrate	382	15.8.43	6,972	+ 997	31	93,250	115,541	— 22,291	Ord. Sh.	77/-	3½	76/3	Nil
	Paraguay Central	274	20.8.43	$5,065,000	+ $1,911,000	8	$39,287,000	$28,545,000	+ $10,742,000	Pr. Lt. Stk.	53	40	72½	8⅓
	Peruvian Corporation ...	1,059	June, 1943	104,734	+ 22,552	52	1,045,065	915,630	+ 129,435	Pref.	19⅞	5½	15	Nil
	Salvador	100	June, 1943	c 106,000	+ c 60,000	50	c 1,243,000	c 1,005,172	+ c 237,828	,,	—	—	—	—
	San Paulo	153½	15.8.43	50,167	+ 14,599	32	1,356,488	1,196,294	+ 160,194	Ord. Stk.	59	41	59	3⅜
	Taltal	160	July, 1943	3,515	— 2,975	33	52,326	62,000	— 9,674	Ord. Sh.	41/-	23/-	30/-	Nil
	United of Havana	1,301	21.8.43	47,328	+ 18,917	8	373,582	307,497	+ 66,085	Ord. Stk.	8½	2½	5½	Nil
	Uruguay Northern	73	June, 1943	1,438	+ 399	52	17,255	14,305	+ 2,950	—	—	—	—	—
Canada	Canadian Pacific	17,034	21.8.43	1,158,400	+ 219,200	33	36,049,800	31,476,200	+ 4,573,600	Ord. Stk.	16¼	9 1/16	16¼	Nil
India†	Barsi Light	202	31.7.43	28,695	+ 5,010	17	91,770	63,285	+ 28,485	—	—	—	—	—
	Bengal & North Western ...	2,090	Nov., 1942	264,975	— 33,087	8	449,400	561,082	— 111,682	—	—	—	—	—
	Bengal-Nagpur	3,267	Feb., 1943	932,775	+ 84,975	46	10,031,400	9,111,000	+ 920,400	Ord. Stk.	102½	88	102½	3⅜
	Madras & Southern Mahratta	2,939	20.5.43	268,500	+ 56,293	7	1,402,950	1,113,027	+ 289,923	,,	105¼	87	107½	6⅓
	Rohilkund & Kumaon ...	571	Nov., 1942	555,750	+ 5,072	8	115,950	99,909	+ 16,041	,,	—	—	—	—
	South Indian	2,349	20.5.43	189,379	+ 5,937	6	975,109	890,602	+ 84,507	,,	103½	88¼	103½	4⅛
Various	Egyptian Delta	—	10.6.43	13,955	+ 52,968	10	98,431	75,685	+ 19,746	Prf. Sh.	5¼	1¼	2¼	Nil
	Manila	—	—	—	—	—	—	—	—	B. Deb.	44	35	37½	9⅓
	Midland of W. Australia ...	277	30.6.1943	37,349	+ 12,545	52	392,864	254,759	+ 38,105	Inc. Deb.	95	90	100	6
	Nigerian	1,900	29.5.43	64,646	+ 14,837	7	576,788	453,619	+ 123,169	—	—	—	—	—
	South Africa	13,291	17.7.43	913,075	+ 66,738	15	13,113,446	11,863,678	+ 1,249,768	—	—	—	—	—
	Victoria	4,774	Jan.. 1943	1,480,058	+ 169,521	—	—	—	—	—	—	—	—	—

Note. Yields are based on the approximate current prices and are within a fraction of ⅛

† Receipts are calculated @ 1s. 6d. to the rupee

Argentine traffics are given in sterling calculated @ 16⅞ pesos to the £

§ ex dividend